

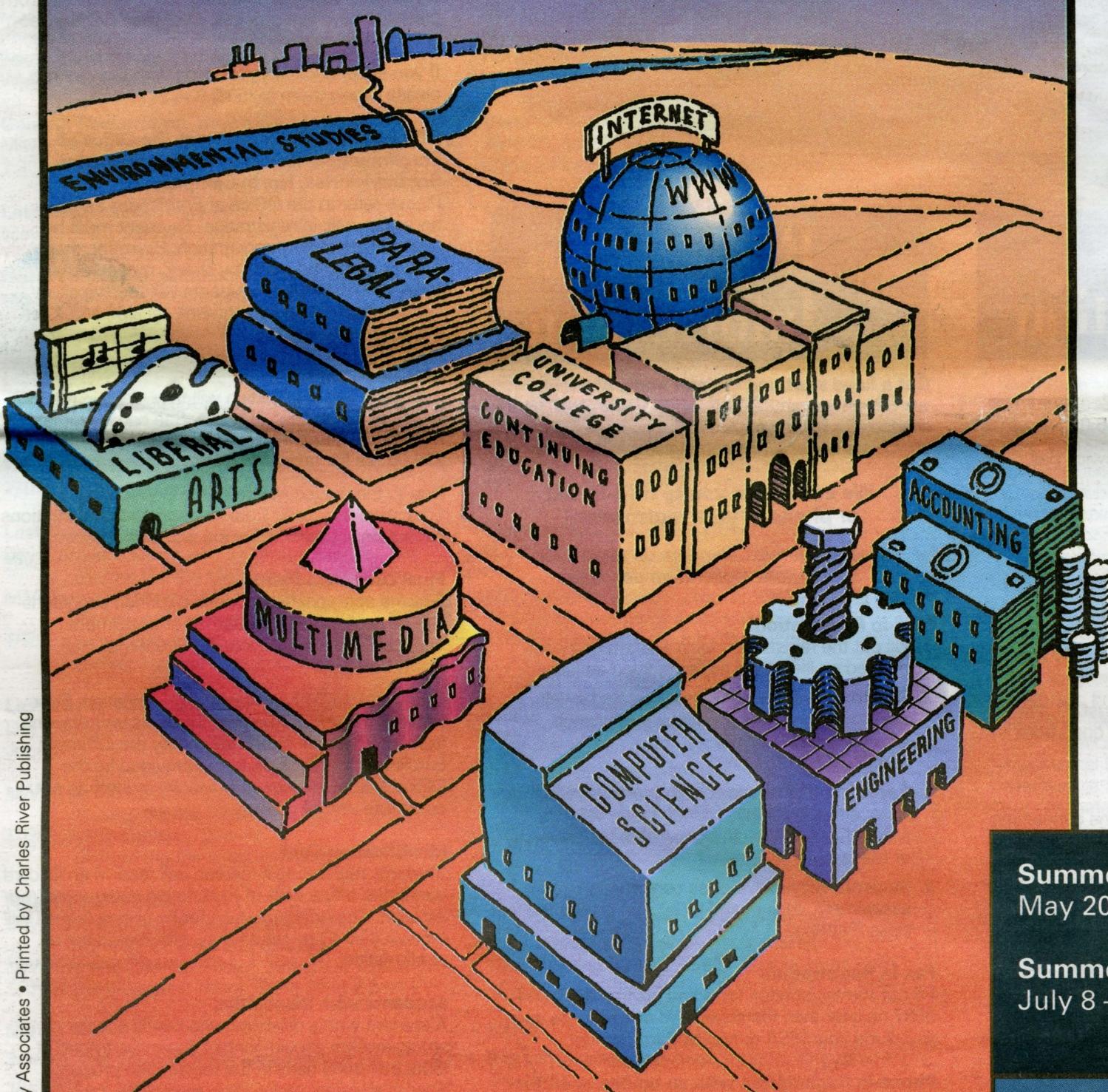


**University of Massachusetts Lowell**  
University College/Division of Continuing Education

for my info  
by

# Summer 1996

## Undergraduate and Graduate Courses



### The Landmark for Learning

## Day and Evenings

- General & Academic Information 2
- Registration Information 2
- Credit Course Listing 5
- Certificate Programs 20
- Registration Form 14
- Noncredit Course Listing 15
- Professional Institutes 17
  - Entrepreneurship
  - Management
  - Multimedia
  - Internet
  - Computer Graphics & Prepress
  - PC User
  - Health Care
  - Education

**Summer Session I**  
May 20 – June 28

**Summer Session II**  
July 8 – August 15

**Classes Start**  
**May 20, 1996**

Register by phone, mail, or in person.  
MasterCard and VISA accepted.

University of Massachusetts Lowell  
University College/Division of Continuing Education  
One University Avenue  
Lowell, MA 01854-2881  
(508) 934-2480

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## Message from the Director of Professional Institutes

### UMass Lowell: A Landmark for Learning

UMass Lowell offers courses, institutes, and certificate programs that can help you keep pace with the rapidly changing business environment. Some of the newest technologies in demand across the country are requiring today's professionals to become proficient suddenly in areas of knowledge and skill that never existed before.

UMass Lowell answers that need with state-of-the-art training opportunities that are critical to the jobs of the future, featuring certificate programs and institutes from Multimedia to Internet Systems Administration to Data/Telecommunications and UNIX System Administration.

This summer UMass Lowell will offer for the first time several new and expanded day seminars and institutes in the area of information technology, designed to help you navigate the most current technologies and computer application programs:

**Internet Institute.** The Internet Institute offers you an opportunity to attend courses designed to train you in all aspects of World Wide Web development. Whether your interests lie in programming with JAVA, designing and delivering interactive content with VRML and Shockwave, or establishing and administering Web servers, the Internet Institute will help you master the skills you need to succeed. (See Page 17)

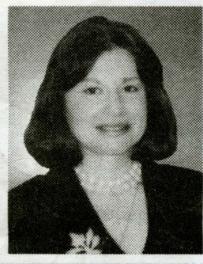
**Multimedia Institute.** Predictions indicate that the market for multimedia may well exceed \$12 billion in sales by 1996. Come explore this new career option and discover how you can become a part of this growing industry. UMass Lowell has become a landmark for learning in this area through its Multimedia Certificate Program, which features one of the largest, most comprehensive programs of study available in New England. (See page 17)

**PC User Institute.** Learn to use some of the most popular software application programs to help you advance in your career or to assist you with your personal computing needs. With over 20 workshops ranging from **Installing and Networking Windows 95 to Visual Basic** and **Introduction to Lotus Notes**, your opportunities to broaden your horizons are many. For your added convenience, several of these workshops can now be delivered on-site at your company. (See page 18)

With over 500 courses including graduate and undergraduate classes offered this summer, you owe it to yourself to take advantage of UMass Lowell's low tuition.

Finally, we are always looking for new ideas! If you have any concepts or suggestions for offering new programs as part of our technology institutes, please call or write us at our new World Wide Web site. (See Below)

We look forward to seeing you this summer!



Catherine A. Kendrick  
Director, Professional  
Institutes



## General Information

### Office Hours:

University College Advising Center, Southwick Hall, Room 305, Monday-Friday: 8:30 am-5:00 pm

Office of Enrollment Services, Southwick Hall, Monday-Thursday: 8:30 am-8:30 pm  
Friday: 8:30 am-5:00 pm

### Holiday Hours:

May 27: Memorial Day observed

June 2: Commencement

July 4: University Closed

The week of July 1 through July 5 the Office of Enrollment Services will be open from 8:30 am-5:00 pm

The week of August 19 through August 23, the Office of Enrollment Services will be open from 8:30 am-7:00 pm

### Phone Directory

(508) 934-2480—For general questions concerning Continuing Education (you will receive a recorded directory)

(508) 934-2474—University College Advising Center

(508) 934-2700—To register by phone with an on-line operator

(508) 934-2050—To register by phone using the Voice Response System

(508) 934-2477—Office of Enrollment Services/Continuing Education

(508) 934-2470—Certificate Line

(508) 934-4000—For general questions concerning UMass Lowell

(508) 934-3087—Continuing Education Fax Number



## Registration Information

**Get a head start and register early.** Although we cannot guarantee an opening in any class, your chances for being enrolled in the course of your choice are better when you register early.

### We encourage you to mail-in, fax or phone-in your registration!

See Academic Calendars on page 3 for appropriate registration deadlines

### Mail-In Registration:

1. Fill out the registration form and return it post-marked no later than the scheduled deadline.
2. Mail to: University of Massachusetts Lowell Enrollment Services /Continuing Education One University Avenue Lowell, MA 01854-2881
3. Payment must be made with the registration form, either by check, money order, VISA, or MasterCard. Make checks payable to: University of Massachusetts Lowell
4. Students will receive class confirmation, room assignment, receipt and ID by mail before the first class meeting.

### Fax-In Registration:

Fill out the registration form and fax it to (508) 934-3087 no later than the scheduled deadline. Be sure to include your VISA or MasterCard number.

### Phone-In Registration with an on-line operator

1. Payment can be made by VISA or MasterCard only.
2. Call (508) 934-2700. Please refer to the Office of Enrollment Services hours for phone-in registration times. The registration staff may take only registration information. If you have any questions concerning courses and academic programs, please call (508) 934-2481 or (508) 934-2474. Check page 3 for phone-in registration deadlines.

### Phone-In Registration using the Voice Response System (Credit Courses Only): Dial (508) 934-2050/2049.

Students who are presently enrolled at the University of Massachusetts Lowell, Division of Continuing Education and who have a Continuing Education PIN# (students registered during Fall and Spring), may now register for summer classes through the touchtone telephone registration system. This system is available during the following times: Monday-Thursday: 6:00 am-11:00 pm Friday: 6:00 am-9:00 pm

### To access the system, dial (508) 934-2050/934-2049.

The Voice Response System will answer the call and ask if you want to access Day School (Option 1) or Evening Sessions (Option 2). Choose Option 2. You will now be asked for your ID# and if valid, your Continuing Education PIN#.

Hold flags will be checked and if none are found, you will be led through the Registration/Add/Drop process by a series of menus and options.

When you finish selecting your courses, you will be asked to pay by credit card and told the amount owed. Registration will be completed upon payment.

If you hang up anytime during the call or do not complete the payment process, all of the ADD transactions will be voided.

If you experience any problems with this system, please report them to (508) 934-2477.

### Office Walk-In Registration at the Office of Enrollment Services/Continuing Education, Southwick Hall, North Campus

Please refer to the Office of Enrollment Services hours for walk-in registration. Payment must be made at the time of registration. Payment after 4:00 pm must be made by check, money order, VISA, or MasterCard. Students will receive class confirmation, room assignment, receipt, and ID at the time they register.

### Late Registration

In person, late registration will take place in the Office of Enrollment Services. See page 3 for late registration dates. **Note: There is an additional \$30.00 fee for late registration.**

Due to the unique nature of the Community Education Noncredit Courses, noncredit registrations cannot be accepted after the first class meeting.

### Final Drop/Add Period

See the appropriate academic calendar. Drop/adds can be processed in the Office of Enrollment Service/Continuing Education, Southwick Hall, North Campus.

Last Week to Withdraw with "W" Notation: Prior to the eighth class meeting. Students withdrawing from any class must officially notify the Office of Enrollment Services on forms provided by the Office. Verbal messages to faculty or staff do not constitute official notification.

### Identification Card

Students registering in person will receive an ID card during the office walk-in registration and general registration. Students who register by phone or mail will receive their ID by return mail with their letter of confirmation.

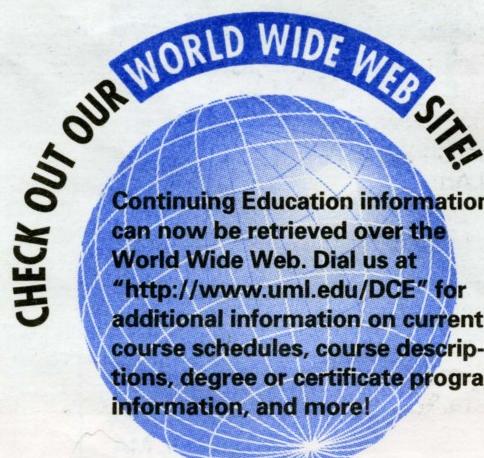
### Students with Disabilities

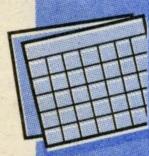
A student with a disability who needs special arrangements should contact Susan Desmond at (508) 934-2465 early in the registration process. Special advising, registration assistance, preferential scheduling, and alternative examination procedures are available. Students must qualify for handicapped parking stickers. Special parking is also available on a temporary basis.

This newspaper is printed at no cost to the Commonwealth of Massachusetts. The University of Massachusetts is an Equal Opportunity/Affirmative Action Title IX, H/V, ADA 1990 Employer and does not discriminate on the basis of race, color, sex, age, religion, national origin, sexual orientation, disability or veteran status in its educational programs, activities, or employment policies.

Every effort has been made to ensure the accuracy of the information presented in this bulletin. However, the Division of Continuing Education reserves the right to implement new rules and regulations and to make changes of any nature in its program, calendar, locations, tuition, and fees. Whenever possible, appropriate notice of such changes will be given before they become effective.

In registering for courses, each student assumes full responsibility for knowledge of and compliance with the definitions, regulations, and procedures for the University as set forth in the appropriate publications and bulletins.





# Academic Calendar and Registration Information

## Summer Session I

May 20 - June 28, 1996

**Day classes begin on May 20.**

**M/W Evening classes begin on May 20 and include 3 FRIDAYS: May 31, June 14, June 28 at the regularly scheduled hours.**

**T/Th Evening classes begin on May 21 and include 2 FRIDAYS: June 7, June 21 at the regularly scheduled hours.**

**We encourage you to mail-in, phone-in, or fax-in your registration.**

May 27: Memorial Day observed.

Mail-In Registration: March 18-May 13  
Phone-In Registration: March 18-May 17  
Fax-In Registration: March 18-May 17  
Walk-In Registration: March 18-May 17

### General Registration: May 13 & 14

May 13 & 14, 9:00 am-12:00 Noon and 5:00 pm-7:30 pm in the Office of Enrollment Services.

### Late Registration: May 20 & 21

May 20 & 21, 9:00 am-12:00 Noon and 5:00 pm-7:30 pm in the Office of Enrollment Services.

**Note: There is an additional \$30.00 fee for late registration.**

### Last Day to Add a Lab:

Day Classes: May 21

### Last Day for Partial Refund:

(Before the 3rd class meeting)  
Day Classes: May 22  
M/W Evening Classes: May 29  
T/Th Evening Classes: May 28

### Last Day to Drop/Add Course:

Day Classes: May 24  
(Before the 4th class meeting)  
M/W Evening Classes: May 29  
(Before the 3rd class meeting)  
T/Th Evening Classes: May 28  
(Before the 3rd class meeting)

### Last Day to Withdraw with "W" notation:

Day Classes: June 5 for a 3-credit course;  
June 3 for a 4-credit course.  
(Before the 10th class meeting)  
M/W Evening Classes: June 12  
(Before the 8th class meeting)  
T/Th Evening Classes: June 11  
(Before the 8th class meeting)

### Final Examinations:

Day Classes: June 26 for a 3-credit course;  
June 27 for a 4-credit course  
M/W Evening Classes: Friday, June 28 at 7 pm  
T/Th Evening Classes: Thurs., June 27 at 7 pm

### NOTE:

**3-credit day courses** meet Monday through Thursday

**4-credit day courses** meet Monday through Friday  
*Unless otherwise indicated*

**M/W evening courses** meet twice a week plus 3 Fridays: May 31, June 14, and June 28

**T/Th evening courses** meet twice a week plus 2 Fridays: June 7 and June 21

## Summer Session II

July 8 - August 15, 1996

**Day classes begin on July 8.**

**M/W Evening classes begin on July 8 and include 2 FRIDAYS: July 19, August 2 at the regularly scheduled hours.**

**T/Th Evening classes begin on July 9 and include 2 FRIDAYS: July 26, August 9 at the regularly scheduled hours.**

**We encourage you to mail-in, phone-in, or fax-in your registration.**

Mail-In Registration: March 18-June 28  
Phone-In Registration: March 18-July 5  
Fax-In Registration: March 18-July 5  
Walk-In Registration: March 18-July 5

### General Registration: June 26

June 26, 9:00 am-12:00 Noon and 5:00 pm-7:30 pm in the Office Enrollment Services.

### Late Registration: July 8 & 9

July 8 & 9, 9:00 am-12:00 Noon and 5:00 pm-7:30 pm in the Office of Enrollment Services.

**Note: There is an additional \$30.00 fee for late registration.**

### Last Day to Add a Lab:

Day Classes: July 9

### Last Day for Partial Refund:

(Before the 3rd class meeting)  
Day Classes: July 10  
M/W Evening Classes: July 15  
T/Th Evening Classes: July 16

### Last Day to Drop/Add Course:

Day Classes: July 11  
(Before the 4th class meeting)  
M/W Evening Classes: July 15  
(Before the 3rd class meeting)  
T/Th Evening Classes: July 16  
(Before the 3rd class meeting)

### Last day to withdraw with "W" notation:

Day Classes: July 23 for a 3-credit course; July 19  
(Before class) for a 4-credit course  
(Before the 10th class meeting)  
M/W Evening Classes: July 29  
(Before the 8th class meeting)  
T/Th Evening Classes: July 30  
(Before the 8th class meeting)

### Final Examinations:

Day Classes: August 13 for a 3-credit course;  
August 14 for a 4-credit course.  
M/W Evening Classes: Wed., August 14 at 7 pm  
T/Th Evening Classes: Thurs., August 15 at 7 pm

### NOTE:

**3-credit day courses** meet Monday through Thursday

**4-credit day courses** meet Monday through Friday  
*Unless otherwise indicated*

**M/W evening courses** meet twice a week plus 2 Fridays: July 19 and August 2

**T/Th evening courses** meet twice a week plus 2 Fridays: July 26 and August 9



# Academic Information

The University of Massachusetts Lowell is accredited by the New England Association of Schools and Colleges, which accredits schools and colleges in the six New England states. Membership in the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators. The programs in Civil Engineering Technology, Electronic Engineering Technology, and Mechanical Engineering Technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

### Catalog

Students should refer to the catalog for rules, regulations, program outlines, and course descriptions. The 1994-1996 Division of Continuing Education catalog is available in the Advising Center and the Office of Enrollment Services. Catalogs are free upon request. Call (508) 934-2480.

### Admission to a Certificate or Degree Program

Students who have graduated from high school or who have earned a high school equivalency certificate are invited to apply for programs leading to a Certificate or an Associate or Baccalaureate degree. Applications for all programs are accepted on a rolling admissions basis. Contact the Division of Continuing Education Office at (508) 934-2470 (certificate programs) or (508) 934-2465 (degree programs) for an application and information on the application procedure. There is no fee to apply.

The following degree and certificate programs are available on a part-time evening basis:

### College of Engineering

#### Associate's Degrees

Civil Engineering Technology  
Civil Engineering Technology:  
Water Treatment Option  
Civil Engineering Technology:  
Wastewater Treatment Option  
Civil Engineering Technology:  
Surveying Option  
Electronic Engineering Technology  
Mechanical Engineering Technology

#### Bachelor's Degrees

Civil Engineering Technology  
Civil Engineering Technology:  
Environmental Option  
Electronic Engineering Technology  
Industrial Technology: Manufacturing,  
Plastics, Water/Wastewater Option  
Mechanical Engineering Technology  
Mechanical Engineering Technology:  
Manufacturing Option

### College of Arts and Sciences

#### Associate's Degrees

Applied Chemistry  
Applied Chemistry: Biotechnology Option  
Applied Chemistry: Hazardous Waste Option  
Applied Mathematics  
Applied Mathematics:  
Computer Mathematics Option

#### Information Systems

Criminal Justice

#### Bachelor's Degrees

Applied Chemistry  
Applied Chemistry: Coatings Option  
Applied Mathematics  
Applied Mathematics:  
Computer Mathematics Option  
Criminal Justice  
Criminal Justice: Paralegal Option  
Information Systems  
Liberal Arts

### College of Management

#### Associate's Degrees

Accounting  
Banking  
Management

### Bachelor of Science in Business Administration

### Expand Your Career Options with Some of Our Most Popular Bachelor's Degree Programs In:

- 2 New Certificate Programs In:
- Computer Assisted Manufacturing\*
- Hazardous Waste Management\*

For more information, call the Advising Center at **(508) 934-2474.**

\*Subject to Faculty Senate approval.

## Certificate Programs

Accounting	Multimedia Applications
Banking	Nutrition
<b>NEW!</b> Computer Assisted Manufacturing*	Packaging
Computer Proficiency	Paralegal
Data/Telecommunications	Plastics Engineering
Electro-Optics	Technology
Engineering Skills*	Purchasing Management
Environmental Technology	Quality Assurance
<b>NEW!</b> Hazardous Waste Management*	Security Management
International Trade	Spanish
Internet Systems Administration	Technical Writing
Land Surveying	UNIX
Manufacturing Technology	Wastewater Treatment
	Water Treatment
	Windows Development
	Programming

\*Subject to Faculty Senate approval.

## Certificate Completion

When a student completes the necessary courses for a Certificate program, the student should complete and submit a Certificate Award Petition to the Division of Continuing Education.

## Course Grades

Grade reports for the summer sessions will be mailed to students approximately two weeks after exams end. Students who have received their PIN# can also call the Voice Response System at (508) 934-2050 to receive their summer session grades which will be available as soon as they are posted.

## Third Party Payment

All students using company direct payment, military plans, state tuition waivers, or veterans' waivers must include the appropriate forms or authorizing letters with their registration, or have them on file. No tuition refund is awarded for late submission of eligibility form. Students receiving company reimbursement must prepay their own tuition.

## Senior Citizens

Senior citizens (60 years or older) may attend classes in Continuing Education credit programs tuition-free provided that there are sufficient tuition paying students enrolled to bear the cost of instruction and provided there is space available. Please note that waivers are not retroactive and do not cover registration and other fees.

## Tuition Refund Policy for Credit Courses

Any eligibility for tuition refund is based on the academic calendar, not class attendance, and is pro-rated as follows excluding fees:

Withdrawal before first class meeting	100%
Before the second class meeting	90%
Before the third class meeting	50%
After third class meeting	No refund

## Class Cancellations

If classes are cancelled due to insufficient enrollment, full tuition and fees will be refunded.

Students withdrawing from any class must officially notify the Office of Enrollment Services/Continuing Education on forms provided by the Office. Verbal messages to faculty or staff do not constitute official notification.

## Tuition Refund Policy for Noncredit Courses

Participants who withdraw before the first class meeting will receive the total amount paid excluding the \$15.00 registration fee. Participants who withdraw following the first class meeting will receive a 50% refund excluding the \$15.00 registration fee. No refunds are given for withdrawal after the second class meeting.

## Student Health Insurance

Effective September 1, 1989, every student who is enrolled in at least 9 semester hours or more in a degree program is required by Massachusetts State legislation to participate in a qualifying student health insurance program. The cost of this insurance is \$289.00 for the spring and summer semesters and payment of the appropriate fee will be required at registration. To waive participation in this program students must fill out a form at registration showing equivalent coverage. Name of the insurance company and policy number are required information on the waiver form.

Tuition is priced on the basis of credit hour unless contact hour is different. Tuition is then based on the listed contact hour.

## Tuition and Fee Information

Registration Fee (non-refundable)	\$35.00
Undergraduate Tuition (per credit/contact hour)	\$115.00
Undergraduate Audit (per credit/contact hour)	\$115.00
Late Registration Fee	\$30.00
Laboratory Fee (refundable before first class meeting)	\$50.00
Graduate tuition (per credit/contact hour)	\$195.00

Students who have checks returned due to insufficient funds will be charged an additional \$30.00 for the processing of the registration.

## Overdue Accounts

Students will be permitted to attend class and to utilize facilities only after they have cleared all their financial obligations to the University. In addition, student transcripts and diplomas will not be released unless all indebtedness has been discharged. Should it be necessary to utilize the services of a collection agency or attorney for an overdue student account, the student will be liable for any and all legal fees, commissions, and associated service charges.

## Directed Studies

Directed studies are considered Special Programs, and as such, tuition remission and certificates of eligibility cannot be accepted.

## Veterans' Information

Veterans must be matriculated in an undergraduate program and have all appropriate paperwork on file at Continuing Education in the Office of Enrollment Services, including a DD214, an Admission Application form, and official transcripts from other colleges in order to receive VA benefits. Waivers cover 100% cost of tuition, are not retroactive and do not cover registration and other fees. In addition, veterans requesting benefits must check the appropriate line on the registration form. Please note: Veterans should use the mail-in, walk-in or fax-in options when registering (no phone in). For additional information call (508) 934-2430.

# Advising Information

In an effort to foster quality advising and to service the information needs of our students, University College/Continuing Education has expanded the University's advising efforts.

## Drop-in Advising Center

An Advising Center to service both day and evening students is available to students in Southwick Hall, North Campus. Students are welcome to drop by from 8:30 am-5:00 pm for general advising, information on associate's and bachelor's degrees and certificate programs, and/or to obtain catalogs and brochures. Call the Advising Center at (508) 934-2474.

Workshops on topics such as study skills, time management, listening and note taking will also be available. General advisors and peer advisors will be on hand to assist students and to answer their questions.

For information on Certificate Programs, call the Certificate Line at (508) 934-2470.

## For Appointments with Program Coordinators and General Advisors, call (508) 934-2430, 934-2477, or 934-2557.

In addition to the advising conducted at the Advising Center, appointments with General Advisors and Program Coordinators are being scheduled in the Office of Enrollment Services. Students are encouraged to call the Office of Enrollment Services/Continuing Education at (508) 934-2430, 934-2477, 934-2557. Evening supervisors are also available from 5:00 pm-8:00 pm to answer questions.

## Evening Supervisors

Professor Alan Doerr  
Professor Bernard Shapiro

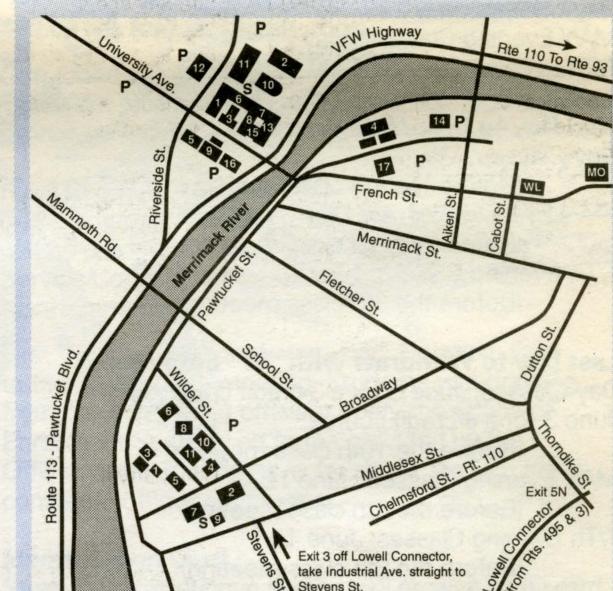
## Faculty Advisors

Professor Donald R. Berry: Liberal Arts, Criminal Justice, Paralegal Studies  
Professor Alease Bruce: Nutrition and Health  
Professor David Colling: Industrial Technology  
Professor Paul Damour: Chemistry, Biology, Environmental Sciences, Physics  
Professor Alan Doerr: Applied Mathematics  
Professor Stephen Driscoll: Plastics and Industrial Technology/Plastics Option, Packaging  
Professor Ann Marie Hurley: Computer Mathematics, Information Systems, Multimedia  
Professor Paul Kales: Civil Engin. Tech. (on sabbatical)  
Professor Donald Pottle: Chair - Engineering Technology, Water/Wastewater, Environmental Technology  
Professor Charles Thompson: Accounting, Banking, Management  
Professor Robert Tuholski: Civil Engineering Technology, Mechanical Engineering Technology, Industrial Technology: Manufacturing Option  
Professor Fahd Wakim: Electronic Engineering Tech.

## General Advisors

Ms. Elaine Bourret: Accounting, Banking, Management  
Ms. Susan Desmond: Degree and Certificate Programs  
Mr. David Driscoll: Multimedia  
Mr. Steven Tello: Multimedia

# Campus Information



North	South
1 BL	Ball Engineering Ctr.
2	Allen Hall
3	Costello Gym
4	Cumnock Hall
5	Dormitories
6 EB	Eames Hall
7 FA	Engineering
8 KI	Falmouth
9	Kitson
10 EC	Alumni/Lydon Library
11 OH	Pinanski
12 OS	Olney
13 PA	O'Leary Library
14	S
15 SO	Southwick Hall
16	Smith Hall
17	Fox Student Union
P	Parking
S	Security

**Downtown**

MO	Morgan Center
WL	Wannalancit

## Parking

Students are encouraged to park in the numerous parking lots on the North and South Campus. Parking stickers may be obtained from the University Police in Ball 125 North Campus (open 24 hours a day, 7 days a week). This sticker entitles students to park after 5:30 pm in any University parking lot except Cumnock Hall. Students should not park in "Residential Parking" areas because Lowell police will tow.

## Locating Your Classroom

Upon registration, students are issued a confirmation printout which includes the two-letter building code along with the room number. Refer to the map and building key above to locate where your class will be held. For assistance, call the Advising Center at (508) 934-2474.

# Academic Credit Course Listing

**REMINDER: CHECK COURSE NUMBERS AND PREREQUISITES TO ENSURE ENROLLMENT IN THE CORRECT CLASS.**

## College of Management AACSB Accredited Courses

The College of Management at the University of Massachusetts Lowell is accredited by the American Assembly of Collegiate Schools of Business (AACSB) at the graduate and undergraduate level. All courses preceded with + should be acceptable towards any AACSB accredited program and transfer to the College of Management's M.B.A. and undergraduate programs without any restrictions, provided the student has fulfilled all prerequisites prior to taking the course. **These courses marked with + are limited to students enrolled in AACSB accredited programs.**

# Summer Session I

May 20 – June 28, 1996

**Day Classes** begin on May 20.

**3 credit courses** meet Monday through Thursday;

**4 credit day courses** meet Monday through Friday

**M/W Evening Classes** begin on May 20 and include 3 FRIDAYS:

May 31, June 14, June 28 at the regularly scheduled hours.

**T/Th Evening Classes** begin on May 21 and include

2 FRIDAYS: June 7, June 21 at the regularly scheduled hours.

No.	Title	Time	Days	Cr(Co)	P: Prerequisite/ Corequisite/Other	Instructor
<b>Accounting</b>						
60.201-011*	Accounting/Financial	Noon-2:00 pm	M-Th	3		Samuel Chesler
60.201-012*	Accounting/Financial	7:00-10:00 pm	M/W	3		Harold Sauter
60.202-011	Accounting/Managerial	9:45-11:45 am	M-Th	3	P: 60.201	Samuel Chesler
67.101-011*	Accounting Principles I	7:00-10:00 pm	T/Th	3		Charles Thompson
67.102-011	Accounting Principles II	7:00-10:00 pm	T/Th	3	P: 67.101	Claire Bickford
67.209-011	Federal Income Taxes	7:00-10:00 pm	T/Th	3	P: 67.102	Kevin Wall
60.201 is for students with some accounting/business experience. 67.101 is for students with no accounting experience.						
*Students may not receive credit for both 60.201 and 67.101. The above courses with the 67 prefix are not intended for matriculating in the Bachelor of Science degree programs in the College of Management.						
CERTIFICATE IN ACCOUNTING (See page 20 for required courses.)						
<b>Art</b>						
70.255-011	Drawing I (Lab Fee)	9:00-12:30 pm	M-Th	3	AE, Area II	Department Faculty
70.265-011	Computer Art I Studio (Lab Fee)	9:45-11:45 am	M-Th	3	AE	Department Faculty
70.271-011	Painting I (Lab Fee)	9:00-12:30 pm	M-Th	3	AE, Area II	Department Faculty
70.496-011	Practicum in Studio Art	9:00-12:30 pm	TBA	3	P: permission of Art Department	Department Faculty
72.150-011	Basic Stagecraft	6:30-10:00 pm	M/W	2	(6/3 to 6/28)	William Brackett
79.101-011	Art Appreciation	7:00-10:00 pm	M/W	3	AE, HSA, Area II	Charles Giuliano
79.203-011	Survey of Art: Prehistoric to Medieval	7:30-9:30 am	M-Th	3	AE, HSA, Area II	Liana Cheney
79.204-011	Survey of Art: Renaissance to Modern	9:45-11:45 am	M-Th	3	AE, HSA, Area II	Liana Cheney
79.494-011	Directed Study in Art History	Time: TBA	TBA	3	P: permission of Art History Coordinator	Department Faculty
79.496-011	Practicum in Art History	Time: TBA	TBA	3	P: permission of Art History Coordinator	Department Faculty
<b>Banking</b>						
69.119-011	Commercial Lending	7:00-10:00 pm	M/W	3	P: 67.102	Michael Mullin
69.232-011	Money and Banking	7:00-10:00 pm	T/Th	3	P: 49.201, 49.202	Franklin Inman, Jr.
CERTIFICATE IN BANKING (See page 20.)						
<b>Biological Sciences</b>						
35.211-011	Basic Clinical Microbiology & Pathology	9:45-11:45 am	M-Th	3	P: 35.102, 35.104; C: 35.213, SC	Jacob Lam
35.213-011	Clinical Micro. & Pathology Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	P: 35.102, 35.104; C: 35.211, SC	Jacob Lam
81.215-011	Introduction to Marine Biology	7:30-9:30 am	M-Th	3	C: 81.217, SC	Department Faculty
81.217-011	Intro to Marine Biology Lab (Lab Fee)	9:45-11:45 am	MWTh	1 (3)	C: 81.215, SC	Department Faculty
81.320-011	Botany	7:30-9:30 am	M-Th	3	SC, C: 81.322	Ezequiel Rivera
81.322-011	Botany Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	SC, C: 81.320	Ezequiel Rivera
83.101-011	Life Science I	Noon-2:00 pm	M-Th	3	C: 83.103, Area III, SC	Siu-Lam Lee
83.101-012	Life Science I	7:00-10:00 pm	T/Th	3	C: 83.103, Area III, SC	G. Skinner-Brassard
83.103-011	Life Science I Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (2)	C: 83.101, Area III, SC	Siu-Lam Lee
<b>Chemical &amp; Nuclear Engineering</b>						
10.347-011	Elements of Thermodynamics & Heat Transfer	7:30-9:30 am	M-Th	3	P: 92.132, 95.141	Kenneth Rogers
<b>Chemistry</b>						
84.111-011	General Chemistry I	Noon-2:00 pm	M-Th	3	SC	Susan McFarland
84.113-011	General Chemistry Lab I (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	C: 84.111, SC	Department Faculty
84.121-011	Chemistry I	9:45-11:45 am	M-Th	3	P: Science, Engineering & Eng. Tech. Majors only; others with dept. permission; C: 84.123, SC	Judith Goldsberry
84.121-012	Chemistry I	6:00-9:00 pm	M/W	3	P: Science, Engineering & Eng. Tech. Majors only; others with dept. permission; C: 84.123, SC	Peter Gabriel
84.122-011	Chemistry II	Noon-2:00 pm	M-Th	3	P: 84.121, Science, Eng'g & Eng. Tech. Majors only; others with dept. permission; C: 84.124, SC	Judith Goldsberry
84.122-012	Chemistry II	7:00-10:00 pm	T/Th	3	P: 84.121, Science, Eng'g & Eng. Tech Majors only; others with dept. permission; C: 84.124, SC	Philip Lamprey
84.123-011	Chemistry Lab I (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	C: 84.121, SC	Department Faculty
84.123-012	Chemistry Lab I (Lab Fee)	7:00-10:00 pm	T/Th	1 (3)	C: 84.121, SC	Department Faculty
84.124-011	Chemistry Lab II (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	P: 84.123, C: 84.122, SC	Department Faculty
84.221-011	Organic Chemistry I	Noon-2:00 pm	M-Th	3	P: 84.122, 84.124; C: 84.229, SC	Department Faculty
84.223-011	Principles of Organic Chemistry I	7:00-10:00 pm	T/Th	3	P: 84.122; C: 84.225, SC	Department Faculty
84.225-011	Principles of Organic Chemistry I Lab (Lab Fee)	7:00-10:00 pm	M/W	1 (3)	C: 84.223	Department Faculty
84.229-011	Organic Chemistry Lab I (Lab Fee)	2:15-5:15 pm	TBA	1 (4)	C: 84.221, SC	Department Faculty
86.131-011	Environmental Chemistry I	7:00-10:00 pm	M/W	3		Charles Panagiotakos
<b>Cinema</b>						
52.330-011	Cinema and the Italian Americans	9:45-11:45 am	M-Th	3	Area II, VC, AE (in English)	Mario Aste
52.378-011	Italian Cinema and Culture	Noon-2:00 pm	M-Th	3	Area II, HV, Conducted in English	Mario Aste
<b>Civil Engineering</b>						
14.203-011	Statics	7:30-9:30 am	M-Th	3	P: 92.132 or 92.126, 95.144, 96.144	Susan Faraji
14.350-011	Structural Analysis I	9:45-11:45 am	M-F	3 (4)	P: 14.204	Susan Faraji
22.211-011	Mechanics I	7:30-9:30 am	M-Th	3		Department Faculty
22.213-001	Dynamics (runs 7 wks)	9:45-11:45 am	M/W/F	3	P: 22.211, 92.225 or 92.231	JMC Kelliger
<b>Civil Engineering Technology</b>						
15.246-011	Fluid Mechanics/Hydraulics	7:00-10:00 pm	T/Th	3	P: 15.237 or 23.221	Allen Bondeson
15.388-011	Pumps & Compressors	7:00-10:00 pm	M/W	3		Paul Doran
CERTIFICATE IN ENVIRONMENTAL TECHNOLOGY (See page 20 for required courses.)						
CERTIFICATE IN LAND SURVEYING (See page 20.)						
<b>Civil Eng'g Tech: Water/Wastewater Option</b>						
15.340-011	Hazardous Waste Management	7:00-10:00 pm	M/W	3		Nihar Mohanty
86.131-011	Environmental Chemistry I	7:00-10:00 pm	M/W	3		Charles Panagiotakos
CERTIFICATE IN WATER TREATMENT (See page 20 for required courses.)						
CERTIFICATE IN WASTEWATER TREATMENT (See page 20 for required courses.)						
<b>Computer Mathematics</b>						
42.221-011	Writing for Multimedia	7:00-10:00 pm	M/W	3	P: 90.230 or permission of instructor	Tim Garrand
90.230-011	Intro to Multimedia/Mac (Lab Fee)	7:30-9:30 am	M-Th	3		Darryl Benjamin
90.230-012	Intro to Multimedia/Mac (Lab Fee)	7:00-10:00 pm	M/W	3		Laurie Stevens
90.230-013	Intro to Multimedia/Windows (Lab Fee)	7:00-10:00 pm	M/W	3		Department Faculty
90.231-011	Graphics for Multimedia/Windows (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.230	Department Faculty
90.231-012	Graphics for Multimedia/Mac (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.230	Marina Jarvis
<b>(also see Computer Science)</b>						

# Academic Credit Course Listing

90.232-011	Desktop Video Prdctn/Windows (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.230	Department Faculty
90.233-011	Multimedia Authoring Software (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.230	Department Faculty
Using Macromedia's Director/Mac						
90.233-012	Multimedia Authoring Software (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.230	Beatrice Lee
Using Macromedia's Director/Windows						
90.234-011	Designing & Developing (Lab Fee)	7:00-10:00 pm	Mon	3	P: 90.231, 92.232	Robert Graham
Interactive Media/Mac (meets 14 weeks)						
90.234-012	Designing & Developing (Lab Fee)	7:00-10:00 pm	W	3		Beatrice Lee
Interactive Media/Mac (meets 14 weeks)						
90.237-011	Topics in Multimedia: Copyright Issues	7:00-10:00 pm	M/W	3		W. Neil Hurley
90.238-011	Designing Multimedia for the (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.231	Carol Abele
World Wide Web/Mac						
90.476-011	Novell Lan Technology (Lab Fee)	7:00-10:00 pm	T/Th	3		Peter Alberti
90.477-011	Novell Lan Administration (Lab Fee)	7:00-10:00 pm	M/W	3		Department Faculty
90.480-011	Novell Enterprise Installtn Mgmt (Lab Fee)	7:00-10:00 pm	T/Th	3		Department Faculty
91.113-011	Exploring the Internet (Lab Fee)	9:45-11:45 am	M-Th	3		Department Faculty
91.113-012	Exploring the Internet (Lab Fee)	7:00-10:00 pm	M/W	3		Department Faculty
92.202-011	Microcomputers & (Lab Fee)	7:30-9:30 am	M-Th	3	SC	Susan L'Italien
Application Software						
92.202-012	Microcomputers & (Lab Fee)	6:00-9:00 pm	M/W	3	SC	Michael Beaulieu
Application Software						
92.202-013	Microcomputers & (Lab Fee)	6:00-9:00 pm	T/Th	3	SC	Dennis Roffman
Application Software						
92.202-014	Microcomputers & (Lab Fee)	7:00-10:00 pm	T/Th	3	SC	Ernest Johnson
Application Software						
92.202-015	Microcomputers & (Lab Fee)	7:00-10:00 pm	M/W	3	SC	Susan L'Italien
Application Software						
92.211-011*	Intro to Programming with C (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.121 or equivalent, SC	Department Faculty
92.212-011	Introduction to Programming with C II	6:00-9:00 pm	M/W	3	P: 92.211	Sean McGowan
92.219-011	BASIC Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.111 or working knowledge of another programming language or E.E.T. major, SC	Ralph D'Amelio
92.220-011	Visual Basic (Lab Fee)	7:00-10:00 pm	T/Th	3		Randhir Chatwal
92.220-012	Visual Basic (Lab Fee)	7:00-10:00 pm	T/Th	3		Department Faculty
92.265-012	Pascal Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.112 or 92.121 or equiv., Area III, SC	James Brzowski
92.267-011*	C Programming (Lab Fee)	Noon-2:00 pm	M-Th	3	P: 92.265, SC	Department Faculty
92.267-012*	C Programming (Lab Fee)	6:00-9:00 pm	M/W	3	P: 92.265, SC	Joseph Russell
92.267-013*	C Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.265, SC	Edward D'Entremont
92.267-014*	C Programming (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.265, SC	Timothy Niesen
92.267-015*	C Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.265, SC	Paul Nagle
92.268-011	C++ Programming (Lab Fee)	7:30-9:30 am	M-Th	3	P: 92.267, SC	Paul Nagle
92.268-012	C++ Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.267, SC	Mark Hertel
92.268-013	C++ Programming (Lab Fee)	6:00-9:00 pm	M/W	3	P: 92.267, SC	Lance Smith
92.311-011	Intro to the UNIX Operating Sys. (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.267 or 92.212	Andrew Garside
92.311-012	Intro to the UNIX Operating Sys. (Lab Fee)	Noon-2:00 pm	M-Th	3	P: 92.267 or 92.212	Fred Vegliante
92.312-011	UNIX Shell Programming (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.311	Michael Richards
92.312-012	UNIX Shell Programming (Lab Fee)	6:30-9:30 pm	M/W	3	P: 92.311	William Vales
92.360-011	Intro to Data Structures/C (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.267, 92.212 and 92.364, 92.321	Victor Gagnon
92.363-011	Intro to Data Analysis (SPSSX) (Lab Fee)	9:45-11:45 am	M-Th	3	P: 92.183 or equivalent	Alexander Olsen
92.364-011	Problem Solving with C (Lab Fee)	6:00-9:00 pm	M/W	3	P: 92.212 or 92.267	Sean McGowan
92.455-011	Assembly Lang. Programming I (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.263 or 92.265 or 92.267	Antonio Gellineau
92.470-011	Data Telecommunications	7:00-10:00 pm	M/W	3	P: 92.267, 92.311	Department Faculty
92.473-011	Computer Netwrk Architecture & Protocol	6:00-9:00 pm	T/TH	3	P: 92.472	Alan Wu
92.474-011	Data Base Concepts I (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 2 semesters of a higher level language other than BASIC	Department Faculty
92.475-011	Communication Network Mgmt (Lab Fee)	6:00-9:00 pm	M/W	3	P: 92.472	Raymond Vigean

\*Students may not receive credit for both 92.211 and 92.267

CERTIFICATE IN COMPUTER PROFICIENCY (See page 20 for required courses.)

CERTIFICATE IN DATA TELECOMMUNICATIONS (See page 20 for required courses.)

CERTIFICATE IN UNIX (See page 20 for required courses.)

CERTIFICATE IN MULTIMEDIA APPLICATIONS (See page 20 for required courses.)

CERTIFICATE IN INTERNET SYSTEM ADMINISTRATION (See page 20 for required courses.)

CERTIFICATE IN WINDOWS DEVELOPMENT PROGRAMMING (See page 20 for required courses.)

<b>Computer Science</b>	91.101-011	Computing I (Structured Lab)	6:00-8:00 pm	Wed	1	(13 weekly meetings) C: 91.101-012)	Department Faculty
	91.101-012	Computing I (Lab Fee)	6:00-9:00 pm	Mon	3		Department Faculty
	91.102-011	Computing II (Lab Fee)	6:00-9:00 pm	Tues	4	P: 91.101 or Chair permission	Department Faculty
		(13 wkly meetings)					
<b>(also see Computer Mathematics)</b>	91.113-011	Exploring The Internet (Lab Fee)	9:45-11:45 am	M-Th	3		Department Faculty
	91.113-012	Exploring the Internet (Lab Fee)	7:00-10:00 pm	M/W	3		Department Faculty
	91.203-011	Intro to Comp. Org. & Assembly Lang. (11 Weeks) (Lab Fee)	9:00-11:00 pm	S	4		Department Faculty
	91.250-011	Data Structures, Algorithms & C (Lab Fee) (26 semi-weekly meetings)	6:00-9:00 pm 9:00-11:00 am	Wed plus Sat:	3	P: assumes basic knowledge of C or related programming language	Department Faculty
	91.281-011	Intro to Windows Programming (Lab Fee) with Object Oriented Programming Tools	7:00-10:00 pm	M/W	3	P: 92.220	Department Faculty
	91.371-011	Internet System Administration (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.311 (Offered over Internet)*	Department Faculty
	91.372-011	Managing Internet Information Services	7:00-10:00 pm	T/Th	3	P: 92.311 (Offered over Internet)*	William Ostaski
	91.373-011	HTML Development & (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.311	David Scuito
		CGI Programming					
	91.472-011	Security Issues on the Internet (Lab Fee)	7:00-10:00 pm	T/Th	3	P: permission of instructor	Antonio Gellineau
		*CALL FOR ADDITIONAL INFORMATION					

<b>Criminal Justice</b>	44.101-011	The Criminal Justice System	9:45-11:45 am	M-Th	3		Anthony Petrosino
	44.111-011	Industrial Security	7:00-10:00 pm	M/W	3		John Pignato
	44.141-011	Police Functions	9:45-11:45 am	M-Th	3		F. Paisoin
	44.201-011	Computer Applications in CJ (Lab Fee)	7:30-9:30 am	M-Th	3	P: 44.101 or instructor permission	Joseph Lipchitz
	44.221-011	Criminology I	Noon-2:00 pm	M-Th	3		James Byrne
	44.234-011	Criminal Law	7:00-10:00 pm	M/W	3		Anthony Petrosino
	44.261-011	Juvenile Delinquency	7:00-10:00 pm	T/Th	3		Steve Sacco
	44.360-011	Gender Race and Crime	7:00-10:00 pm	T/Th	3	P: 44.101	Patricia Thompson
	44.380-011	Sel. Issues: Federal Law Enforcement	7:30-9:30 am	M-Th	3		Douglas Morrow
	44.423-011	Elite Deviance	7:00-10:00 pm	T/Th	3		James Byrne
	44.435-011	Alternative Dispute Resolution	7:00-10:00 pm	M/W	3		Ann O'Connor-Downes
	44.493-011	Computer Crime	7:30-9:30 am	M-Th	3		Joseph Lipchitz
	44.496-011	Criminal Justice Practicum	9:45-11:45 am	M-Th	3	P: Jrs. and Srs. in Crim. Justice only	Renee Kasinsky
		CERTIFICATE IN SECURITY MANAGEMENT (See page 20.)					
		CERTIFICATE IN PARALEGAL STUDIES (See page 20 for required courses.)					

<b>Economics</b>	49.201
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# Academic Credit Course Listing

<b>Electrical Engineering</b>	16.201-011	Circuit Theory I	Time: TBA	TBA	4	P: 92.132, C: 16.207 Corequisite: 16.201	Department Faculty
	16.207-011	Basic EE I Laboratory	Time: TBA	TBA	2	Corequisite: 16.365, SCT	Department Faculty
	16.311-011	Electronics I Laboratory	Time: TBA	TBA	2	P: 92.234 and 16.201. I(3,0)	Department Faculty
	16.315-011	Complex Variables for Engineers	Time: TBA	TBA	3	P: 16.202, 92.234	Department Faculty
	16.360-011	Electromagnetic Theory I	Noon-2:00 pm	M-Th	3	P: 84.122, 16.202; C: 16.311.	Tenneti Rao
	16.365-011	Electronics I	Time: TBA	TBA	3	P: permission of instructor	Department Faculty
	16.409-011	Project Lab (Lab Fee)	Time: TBA	TBA	3	P: permission of instructor	Ziyad Salameh
	16.410,411,412	Directed Studies	Time: TBA	TBA	3	P: 16.211, Senior status	Department Faculty
	16.442-011	Engineering Applications of C Programming	9:45-11:45 am	M-Th	3		Russell Laste
<b>Electronic Engineering Technology</b>	17.130-011	Electrical Basics and Laboratory	7:00-10:00 pm	TBA	2 (3)	P: 42.226, 92.115, 92.219 or 92.263, 99.132	Thomas Coffey
	17.133-011	Electro-optics an Overview	7:00-10:00 pm	T/Th	3		Department Faculty
	17.492-011	Diagnostic Programming	7:00-10:00 pm	M/W	3	P: 17.383 and either 92.265 or 92.267	Philip Arrigo
CERTIFICATE IN ELECTRO-OPTICS (See page 20.)							
<b>English</b>	42.101-011	College Writing I	7:30-9:30 am	M-Th	3		William Coughlin
	42.101-012	College Writing I	7:00-10:00 pm	M/W	3		Department Faculty
	42.102-011	College Writing II	9:45-11:45 am	M-Th	3	P: 42.101	William Coughlin
	42.102-012	College Writing II	7:00-10:00 pm	T/Th	3	P: 42.101	Department Faculty
	42.103-011	College Writing I for Internatnl Students	7:00-10:00 pm	M/W	3		June Tumblin
	42.212-011	The Short Story	7:00-10:00 am	T/Th	3	P: 42.102, Area II, LT	Department Faculty
	42.224-011*	Business Writing	7:00-10:00 pm	M/W	3	P: 42.102	Rosalie Ryan
	42.226-011*	Technical & Scientific Communication	6:30-9:30 pm	T/Th	3	P: 42.102	Dirk Messelaar
	42.246-011	The Rogue in Fiction	9:45-11:45 am	M/Th	3	P: 42.102, Area II, LT	William Hersey
	42.291-011	History of English Literature I	7:00-10:00 pm	T/Th	3	LT	David Landman
	42.294-011	History of American Literature I	7:00-10:00 pm	M/W	3	P: 42.102, Area II, LT	Robert Griffin
	42.302-011	Creative Writing: Fiction	7:00-10:00 pm	M/W	3		Richard Farrell
	42.303-011	Creative Writing: Poetry	7:00-10:00 pm	T/Th	3		Hillary Halliday
	42.382-011	Crime in Literature	7:30-9:30 am	M-Th	3	P: 42.102, Area II, LT	William Hersey
	42.403-011	Advanced Software Writing	7:00-10:00 pm	Tues	3	(14 weeks)	John Garison
*Please note that students may not receive credit for both 42.224 and 42.226.							
<b>Environmental Sciences</b>	87.115-011	Astronomy	7:00-10:00 pm	T/Th	3	Area III, SC	Arnold O'Brien
	87.403-011	GIS in Environmental Studies (Lab Fee)	7:00-10:00 pm	T/Th			P. Osterroth
	89.101-011	General Geology I	7:30-9:30 am	M-Th	3	Area III, SC	Arnold O'Brien
(See offerings under Civil Engineering Technology, Chemistry, Environmental Sciences, and Water/Wastewater Option)							
CERTIFICATE IN ENVIRONMENTAL TECHNOLOGY (See page 20 for required courses.)							
<b>Finance</b>	(For restrictions on courses marked with a '+', refer to page 5 under College of Management AACSB Accredited Courses.)						
	+61.301-011	Business Finance	7:30-9:30 am	M-Th	3	P: 60.202, 49.201, 49.202	R. Koundinya
<b>Health Professions</b>	30.201-011	Community Health	6:00-9:00 pm	T/Th	3		J. Douglass/P. Tyra
	30.315-011	Kinesiology and Lab (Lab Fee)	9:45-11:45 am	M-F	4 (6)	P: All freshmen, sophomore E.P. courses and 1 yr. of A. and P., and 1 year of Physics	Joseph Dorsey
	35.101-011	Human Anatomy and Physiology I	9:45-11:45 am	M-Th	3	C: 35.103	Ted Namm
	35.103-011	Human Anatomy & Physlgy I Lab (Lab Fee)	1:00-4:00 pm	TWTh	1 (3)	C: 35.101	Alease Bruce
	35.211-011	Basic Clinical Microbiology and Pathology	9:45-11:45 am	M-Th	3	P: 35.102, 35.104; C: 35.213	Jacob Lam
	35.213-011	Clinical Microb. & Pathology Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	P: 35.102, 35.104; C: 35.211	Jacob Lam
	35.356-011	Pharmacology	9:45-11:45 am	M-Th	3	P: Junior level	Arthur Vergados
<b>History</b>	36.350-011	Human Biochemistry	9:45-11:45 am	M-Th	3	P: 35.252 or equivalent	Department Faculty
	43.105-011	Western Civilization To 1715	7:30-9:30 am	M-Th	3	Area II, HS	Jonathan Liebowitz
	43.106-011	The Modern World	9:45-11:45 am	M-Th	3	Area II, HS	Jonathan Liebowitz
	43.111-011	U.S. History to 1877	9:45-11:45 am	M-Th	3	Area II, HS	Dean Bergeron
	43.231-011	Renaissance & Reformation	7:00-10:00 pm	T/Th	3	Area II, HS	Carol A. Davis
	43.364-011	War and Cold War: U.S. History in the 1940's and 1950's	7:00-10:00 pm	M/W	3	Area II, HS	Mark Kosinski
<b>Industrial Technology</b>	46.368-011	Middle East in the Modern World	Noon-2:00 pm	M-Th	3	Area II, HS	Dean Bergeron
	(See separate listings under Manufacturing, Plastics, and Civil Engineering Technology: Water/Wastewater Options)						
<b>Intercollegiate Liberal Arts</b>	59.101-011	Values & Creative Thinking	9:45-11:45 am	M-Th	3	Department Faculty	
<b>Languages</b>	50.211-011	Intermediate Conversational French I	7:00-10:00 pm	M/W	3	Area II	Department Faculty
	51.211-011	Intermediate German I	7:00-10:00 pm	T/Th	3	P: 51.102, Area II	Robert Whelan
	51.491-011	Twentieth Century German Literature	6:00-9:00 pm	T/Th	3	Directed Study	Robert Whelan
	52.330-011	Cinema & the Italian Americans	9:45-11:45 am	M-Th		Area II, VC, AE (in English)	Mario Aste
	52.378-011	Italian Cinema and Culture	Noon-2:00 pm	M-Th	3	Area II, HV, Conducted in English	Mario Aste
	53.101-011	Beginning Japanese I	7:00-10:00 pm	T/Th	3		Department Faculty
	53.103-011	Beginning Russian I	7:00-10:00 pm	M/W	3		Department Faculty
	54.101-011	Beginning Spanish I	7:30-9:30 am	M-Th	3		Heli Hernandez
	54.101-012	Beginning Spanish I	7:00-10:00 pm	M/W	3		Department Faculty
	54.211-011	Intermediate Conversational Spanish I	9:45-11:45 am	M-Th	3	P: 54.102 or equivalent, Area II	Heli Hernandez
	54.211-012	Intermediate Conversational Spanish I	7:00-10:00 pm	T/Th	3	P: 54.102 or equivalent, Area II	Department Faculty
CERTIFICATE IN SPANISH (See page 20.)							
<b>Legal Studies</b>	41.262-011	Introduction to Business Law	7:00-10:00 pm	T/Th	3	BS, Collateral to Criminal Justice	Eugene Reardon
	41.367-011	Environmental Law	9:45-11:45 am	M-Th	3		William Burke
	41.367-012	Environmental Law	7:00-10:00 pm	T/Th	3		William Burke
	41.370-011	Real Estate Law	7:00-10:00 pm	T/Th	3		J. Alan Roberts
	41.376-011	Family Law	7:30-9:30 am	M-Th	3		Russell Karl
	41.376-012	Family Law	7:00-10:00 pm	M/W	3		Russell Karl
	41.381-011	Women and the Law	7:00-10:00 pm	T/Th	3		Jane McElligott
	41.387-011	Legal Research Methods (Lab Fee)	7:00-10:00 pm	M/W	3		Jane McElligott
	41.390-011	Litigation	7:00-10:00 pm	T/Th	3		Michael Martell
	41.395-011	Bankruptcy Law	7:00-10:00 pm	T/Th	3		Peter Stocks
	41.363-011	Corporate & Property Law	7:00-10:00 pm	T/Th	3		Eugene Reardon
<b>Management</b>	(For restrictions on courses marked +, refer to page 5 under College of Management AACSB Accredited Courses.)						
	63.210-011	Operations Analysis	7:30-11:45 am	TBA	3	P: 49.211	M. Riaz Khan
	+63.371-011	Operations Management I	7:30-9:30 am	M-Th	3		George Liaw
	63.475-011	Computer Simulation Manufacturing System	6:00-9:00 pm	T/Th	3		James Monihan
	+66.301-011	Organizational Behavior	9:45-12:45 pm	M/W	3	P: 63.371	Stuart Freedman
	+66.435-011	Comparative Management (6/1 - 6/27)	9:45-12:45 pm	M/Th	3	P: 60 credits	David Lewis
	+66.490-011	Strategic Management	9:30-12:45 pm	M/W	3	P: 60 credits and 66.301	Louis Zivic
	69.231-011	Business Finance	7:00-10:00 pm	M/W	3	P: 61.301, 62.201, 63.371, 66.301, & 96 credits; dept. permission	Franklin Inman Jr.
	69.232-011	Money and Banking	7:00-10:00 pm	T/Th	3	P: 67.102, 49.201, 49.202	P. Zicari
	69.253-011	Intro to Management					

# Academic Credit Course Listing

<b>Marketing</b>	(For restrictions on courses marked with a '+', refer to page 5 under College of Management AACSB Accredited Courses.)					
62.201-011	Marketing Principles	7:00-10:00 pm	T/Th	3	P: 47.101, 48.101, 49.201	Mel Epstein
+62.303-011	Global Marketing Management	9:45 am-12:45	M/W	3	P: 62.301	Eunsang Yoon
<b>Mathematics</b>						
90.111-011*	Fundamental of Algebra	7:00-10:00 pm	T/Th	3		Anthony Sokolowski
92.110-011	College Algebra	Noon-2:00 pm	M-Th	3	Liberal Arts majors only, Area III	Stanley Spiegel
92.111-011	Mathematical Perspectives	9:45-11:45 am	M-Th	3	Liberal Arts majors only, Area III, MA	Stanley Spiegel
92.115-011	College Trigonometry	7:00-10:00 pm	T/Th	3	P: 92.121, MA	Department Faculty
92.121-011**	Precalculus Mathematics	9:45-11:45 am	M-Th	3	P: 90.111 or placement exam, ***	Department Faculty
92.121-012**	Precalculus Mathematics	7:00-10:00 pm	T/Th	3	P: 90.111 or placement exam, ***	Ronald Brent
92.122-011	Differential Calculus	7:30-9:30 am	M-Th	3	Area III, MA	John Burke
92.125-011	Calculus A	7:00-10:00 pm	T/Th	3	P: 92.121, Area III, MA	John Savinelli
92.126-011	Calculus B	7:00-10:00 pm	T/Th	3	P: 92.125, MA	Theresa Saracusa
92.127-011	Calculus IA	9:45-11:45 am	M-F	4	MA	John Burke
92.128-011	Calculus IB	9:45-11:45 am	M-F	4	P: 92.127, MA	Department Faculty
92.131-011	Calculus I	9:45-11:45 am	M-F	4	MA	James Graham-Eagle
92.131-012	Calculus I	7:30-9:30 am	M-F	4	MA	Alan Kaplan
92.132-011	Calculus II	7:30-9:30 am	M-F	4	P: 92.131, MA	Marvin Stick
92.132-012	Calculus II	9:45-11:45 am	M-F	4	P: 92.131, MA	Marvin Stick
92.183-011	Introduction to Statistics	7:30-9:30 am	M-Th	3	P: 90.111 or equivalent, Area III, MA	Alexander Olsen
92.183-012	Introduction to Statistics	7:00-10:00 pm	T/Th	3	P: 90.111 or equivalent, Area III, MA	E. Schissler
92.201-011	Integral Calculus	9:45-11:45 am	M-Th	3	P: 92.122, Area III, MA	Alan Kaplan
92.202-011	Microcomputers & (Lab Fee)	7:30-9:30 am	M-Th	3	SC	Susan L'Italien
92.202-012	Applications Software	6:00-9:00 pm	M/W	3	SC	Michael Beaulieu
92.202-013	Microcomputers & (Lab Fee)	7:00-10:00 pm	T/Th	3	SC	Dennis Roffman
92.202-014	Microcomputers & (Lab Fee)	7:00-10:00 pm	T/Th	3	SC	Ernest Johnson
	Applications Software					
92.225-011	Calculus C	7:00-10:00 pm	T/Th	3	P: 92.126, MA	Philip Breen
92.226-011	Calculus D	7:00-10:00 pm	T/Th	3	P: 92.225, MA	Dorothy Greenler
92.231-011	Calculus III	9:45-11:45 am	M-F	4	P: 92.132, MA	Ashot Shahinian
92.234-011	Differential Equations	9:45-11:45 am	M-Th	3	P: 92.132 or 92.225, MA	Rida Mirie
92.234-012	Differential Equations	7:00-10:00 pm	T/Th	3	P: 92.132 or 92.225, MA	Rida Mirie
92.263-011	FORTRAN Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.112 or 92.121 or equivalent, SC	James Brzowski
92.265-011	Pascal Programming (Lab Fee)	9:45-11:45 am	M-Th	3	P: 90.112 or 92.121 or equiv, Area III, SC	Ann Marie Hurley
92.265-012	Pascal Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.112 or 92.121 or equiv, Area III, SC	James Brzowski
92.267-011	C Programming (Lab Fee)**	Noon-2:00 pm	M-Th	3	P: 92.265, SC	Ann Marie Hurley
92.267-012	C Programming (Lab Fee)**	6:00-9:00 pm	M/W	3	P: 92.265, SC	Joseph Russell
92.267-013	C Programming (Lab Fee)**	7:00-10:00 pm	M/W	3	P: 92.265, SC	Edward D'Entremont
92.267-014	C Programming (Lab Fee)**	6:00-9:00 pm	T/Th	3	P: 92.265, SC	Timothy Niesen
92.267-015	C Programming (Lab Fee)**	7:00-10:00 pm	T/Th	3	P: 92.265, SC	Paul Nagle
92.268-011	C++ Programming (Lab Fee)	7:30-9:30 am	M-Th	3	P: 92.267, SC	Paul Nagle
92.268-012	C++ Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.267, SC	Mark Hertel
92.268-013	C++ Programming (Lab Fee)	6:00-9:00 pm	M/W	3	P: 92.267, SC	Lance Smith
92.301-011	Introduction to Applied Mathematics I	9:45-11:45 am	M-Th	3	P: 92.226 or 92.231	James Graham-Eagle
92.321-011	Discrete Structures I	3:00-6:00 pm	T/Th	3	P: 90.112 or 92.121	Alan Doerr
92.322-011	Discrete Structures II	Noon-2:00 pm	M-Th	3	P: 92.321 and 92.231, 92.234	Alan Doerr
92.363-011	Intro to Data Analysis (SPSSX) (Lab Fee)	9:45-11:45 am	M-Th	3	P: 92.183 or equivalent	Alexander Olsen
92.365-011	COBOL Programming I (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.209 or 92.219	Thomas Flaherty
92.386-011	Statistics for Engineering and Science	9:45-11:45 am	M-Th	3	P: 92.126 or 92.132	Lee Jones
92.411-011	Complex Variables I	9:45-11:45 am	M-Th	3	P: 92.231 or 92.226	Department Faculty
92.416-011	Pattern Recognition and Neural Networks	5:30-8:30 pm	T/Th	3	P: 92.386/Linear Algebra, or equivalent	Lee Jones
92.420-011	Mathematic Problem Solving	6:00-9:00 pm	T/Th	3	P: Calculus II or equivalent	Kenneth Levassuer
92.421-011	Abstract Algebra I	Noon-2:00 pm	M-Th	3	P: 92.221 or 92.321	Alan Doerr
92.450-011	Mathematical Modeling	5:30-8:30 pm	T/Th	3	P: Senior standing	James Graham-Eagle
92.480-011	Applied Combinatorics	5:30-8:30 pm	M/W	3	P: Calculus and Discrete Structures	Mark Yin
*Fundamentals of Algebra (90.111) is a preparatory course and cannot be credited toward a degree program at the University of Massachusetts Lowell.						
**Students may not receive credit for both 90.112 and 92.121. Students may not receive credit for both 92.211 and 92.267.						
***Placement exam is given the first evening of class.						
Many 500-level courses are well within the grasp of upper level undergraduates and may be used as electives. Refer to the Graduate School listing and contact the Graduate School for admissions procedures. University of Massachusetts Lowell Day students must have approval from the mathematics coordinator before taking courses with a 90 prefix.						
<b>Mechanical Engineering</b>	22.211-011	Mechanics I	7:30-9:30 am	M-Th	3	Department Faculty
	22.213-011	Dynamics (7 wks)	9:45-11:45 am	MWF	3	J. McKelligett
	22.295-011	Material Science and Engineering	7:30-9:30 am	M-Th	3	Department Faculty
	22.344-011	Heat Transfer	9:45-11:45 am	M-Th	3	E. Niemi
	22.403-011	Mech. Eng'g. Lab II: Measurement Eng'g. (lab fee)	4:00-7:00 pm	T/Th	2 (3)	Department Faculty
<b>Mechanical Engineering Technology &amp; Manufacturing Option</b>	23.101-011	Engineering Graphics I	7:00-10:00 pm	T/Th	2 (3)	Chris Demetriou
	23.200-011	CADr* (Lab Fee)	7:00-10:00 pm	M/W	3	Norman Truscott
	23.221-011	Statics	7:00-10:00 pm	M/W	3	Marilynn Keppler
	23.241-011	Elements of Thermodynamics I	7:00-10:00 pm	T/Th	3	Vernon Oliver
	23.418-011	Quality Work Teams	7:00-10:00 pm	M/W	3	C. Marchand-Fournier
*Some additional projects are required for this course						
CERTIFICATE IN MANUFACTURING TECHNOLOGY (See page 20.)						
<b>Multimedia Applications</b>	(See Computer Mathematics and Computer Science)					
<b>Music</b>	71.100-011	Fundamentals of Musicianship	7:00-10:00 pm	M/W	3	Jacqueline Charette
	71.102-011	Music Theory II	7:30-9:30 am	M-Th	3	Lisa Cleveland
	71.104-011	Solfege II	9:45-11:45 am	M-Th	3	Mark Peterson
	71.110-011	Basic Music Theory	9:45-11:45 am	M-Th	3	Non-Music majors, Area II, AE
	71.110-012	Basic Music Theory	7:00-10:00 pm	M/W	3	Christopher McGahan
	71.201-011	Music Theory III	7:30-9:30 am	M-Th	3	Juanita Tsu
	71.203-011	Solfege III	9:45-11:45 am	M-Th	3	Mark Peterson
	74.261-011	Survey of Music History I	7:30-9:30 am	M-Th	3	Lisa Cleveland
	74.262-011	Survey of Music History II	9:45-11:45 am	M-Th	3	John Ogasapian
						John Ogasapian
<b>Operations Mgmt/ Info Systems</b>	63.210-011	Operations Analysis Techniques	7:30-11:45 am	M/W	3	M. Riaz Khan
	+63.371-011	Operation Management I	7:30-9:30 am	M-Th	3	George Liaw
<b>Paralegal</b>	41.103-011	Introduction to Paralegal Studies	7:00-10:00 pm	T/Th	3	BS
(also see Legal Studies & Criminal Justice)	41.363-011	Corporate and Property Law	7:00-10:00 pm	T/Th	3	Donna Zils Banfield
	41.370-011	Real Estate Law	7:00-10:00 pm	T/Th	3	Eugene Reardon
	41.376-011	Family Law	7:30-9:30 am	M-Th	3	J. Alan Roberts
	41.376-012	Family Law	7:00-10:00 pm	M/W	3	Russell Karl
	41.387-011	Legal Research Methods (Lab Fee)	7:00-10:00 pm	M/W	3	Russell Karl
	41.390-011	Litigation	7:00-10:00 pm	T/Th	3	Jane McElligott
	44.435-011	Alternative Dispute Resolution	7:00-10:00 pm	M/W	3	Michael Martell
	44.497-011	Paralegal Practicum	Time: TBA	TBA	3	Ann O'Connor Downes
						Donna Banfield Zils
Please see admission requirements to the Paralegal Certificate on page 20.						

# Academic Credit Course Listing

<b>Philosophy</b>	45.201-011	Introduction to Philosophy	7:00-10:00 pm	M/W	3	Area II and VC, HV	Donald LeBlanc
	45.201-012	Introduction to Philosophy	6:00-9:00 pm	T/Th	3	Area II and VC, HV	Michael Koran
	45.202-011	Introduction to Logic	9:45-11:45 am	M-Th	3	Area II and VC, HV	Department Faculty
	45.203-011	Introduction to Ethics	7:00-10:00 pm	M/W	3	Area II and VC, HV	Tracey Stark
	45.203-011	Introduction to Ethics	9:45-11:45 am	M-Th	3	Area II and VC, HV	Elizabeth Gleason
<b>Physics</b>	95.103-011	General Physics I	9:45-11:45 am	M-Th	3	P: Algebra; C: 96.103, SC	Arthur Mittler
	95.121-011	Exploring the Universe	7:30-9:30 am	M-Th	3	C: 96.121, Area III, SC	Paul Ring
	95.141-011	Physics I	7:30-9:30 am	M-F	3 (4)	C: 92.131, 96.141, SC	F. Raymond Hardy
	95.144-011	Physics II	9:45-11:45 am	M-F	3 (4)	P: 95.141; C: 92.132, 96.144, SC	Roger McLeod
	95.245-011	Physics III	9:45-11:45 am	M-F	3 (4)	P: 95.144, 92.132; C: 92.231, 96.245, SC	Paul Ring
	96.103-011	Experimental General Physics I (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	C: 95.103 or 95.201, SC	Department Faculty
	96.141-011	Experimental Physics I (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	C: 95.141, SC	F. R. Hardy
	96.144-011	Experimental Physics II (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	P: 96.141; C: 95.144, SC	Department Faculty
	96.245-011	Experimental Physics III (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	P: 96.144; C: 95.245, SC	Department Faculty
	99.101-011	Radiation and Life	9:45-11:45 am	M-Th	3	SC; C: 99.102; Area III	Iris Nogueira
	99.102-011	Radiation and Life (Lab Fee)	2:15-5:15 pm	TBA	1 (2)	C: 99.101, SC, Area III	Iris Nogueira
<b>Plastics</b>	27.451-011	Selected Topics I: TBA	7:00-10:00 pm	M/W	3	P: Instructor permission	Stephen Driscoll
	27.452-011	Selected Topics II: TBA	7:00-10:00 pm	T/Th	3	P: Instructor permission	Stephen Driscoll
Note: Courses with the 27 prefix are not eligible for graduate credit.							
CERTIFICATE IN PLASTICS ENGINEERING TECHNOLOGY (See page 20.)							
<b>Political Science</b>	46.101-011	Introduction to American Politics	7:00-10:00 pm	T/Th	3	Area I, BS	Francis Talty
	46.230-011	Law and the Legal System	7:00-10:00 pm	M/W	3		Patricia Sullivan Talty
	46.353-011	Public Administration	7:00-10:00 pm	M/W	3		Department Faculty
<b>Psychology</b>	47.101-011	General Psychology	9:45-11:45 am	M-Th	3	Area I, BS	Ronald Pickett
	47.101-012	General Psychology	7:00-10:00 pm	T/Th	3	Area I, BS	Daryl Graves
	47.209-011	Social Psychology	7:30-9:30 am	M-Th	3	Area I, Human Values, BS	Victoria Bacon
	47.232-011	Psychology of Personality	Noon-2:00 pm	M-Th	3	Area I, BS	Joan Cannon
	47.260-011	Human Development I	7:00-10:00 pm	M/W	3	Area I, BS	Phyllis Wentworth
	47.260-012	Human Development I	9:45-11:45 am	M-Th	3	Area I, BS	Masahiko Minami
	47.269-011	Research Methods	Noon-2:00 pm	M-Th	3	P: 47.101	Mary Duell
	47.272-011	Abnormal Psychology	7:30-9:30 am	M-Th	3	P: 47.101, Area I, BS	Richard Siegel
	47.276-011	Theories of Learning	6:00-9:00 pm	M/W	3		Maria Michailides
	47.328-011	Dynamics of Interpersonal Relations	7:30-9:30 am	M-Th	3	Area I	Kimberly Burns
	47.328-012	Dynamics of Interpersonal Relations	7:00-10:00 pm	M/W	3	Area I	Noel Cartwright
	47.335-011	Psychology of Women	9:45-11:45 am	M-Th	3	Area I, Human Values	Berna Haberman
	47.360-011	Human Development II	7:30-9:30 am	M-Th	3	P: 47.260	Kevin Callahan
	47.361-011	Prob./Issues in Child/Adolescent Psych.	7:00-10:00 pm	T/Th	3		Jean Saunders
	47.473-011	Seminar: Social Psychology	2:15-5:15 pm	M/W	3		Peter Hantzis
	47.474-011	Seminar in Developmental Psychology	9:45-11:45 am	M-Th	3	P: 47.260, 47.269 or instructor permissn	Joan Cannon
<b>Radiological Sciences</b>	(See Physics)						
<b>Sociology</b>	48.101-011	Introduction to Sociology	7:30-9:30 am	M-Th	3	Area I, BS	Levon Chorbajian
	48.101-012	Introduction to Sociology	7:00-10:00 pm	T/Th	3	Area I, BS	Levon Chorbajian
	48.220-011	Self-Assessment/Career Development	7:00-10:00 pm	T/Th	3		Leonard Harlow
	48.231-011	Sociology of the Family	7:00-10:00 pm	M/W	3	Area I, BS	Department Faculty
	48.241-011	Women in Society	9:45-11:45 am	M-Th	3	Area I, Human Values, BS	Department Faculty
	48.317-011	Sociology of Genocide	7:00-10:00 pm	M/W	3		Jack Porter
<b>Technical Writing</b>	(Technical Writing courses are open to undergraduate and graduate students.)						
	42.403-011	Advanced Software Writing (14 weeks)	7:00-10:00 pm	Tues	3	P: 42.402	John Garison
CERTIFICATE IN TECHNICAL WRITING (See page 20 for required courses.)							
<b>Water/Wastewater Option</b>	(See Civil Engineering Technology: Water/Wastewater Option.)						

**REMINDER: CHECK COURSE NUMBERS AND PREREQUISITES TO ENSURE ENROLLMENT IN THE CORRECT CLASS.**

## Summer Session II July 8 – August 15, 1996

**Day Classes** begin on July 8.

**3 credit courses** meet Monday through Thursday;

**4 credit day courses** meet Monday through Friday

**M/W Evening Classes** begin on July 8 and include 2 FRIDAYS: July 19, August 2 at the regularly scheduled hours.

**T/Th Evening Classes** begin on July 9 and include 2 FRIDAYS: July 26, August 9 at the regularly scheduled hours.

No.	Title	Time	Days	Cr (Co)	P: Prerequisite/ Corequisite/Other	Instructor	
<b>Accounting</b>	60.202-021	Accounting/Managerial	9:45-11:45 am	M-Th	3	P: 60.201	Anthony Carbone
	67.101-021	Accounting Principles I	7:00-10:00 pm	M/W	3		Claire Bickford
	67.102-021	Accounting Principles II	7:00-10:00 pm	M/W	3	P: 67.101	John Keelan
	60.202 is for students with some accounting/business experience. 67.101 is for students with no accounting experience.						
	Students may not receive credit for both 60.201 and 67.101.						
	The above courses with the 67 prefix are not intended for matriculating in the Bachelor of Science degree program in the College of Management.						
	CERTIFICATE IN ACCOUNTING (See page 20 for required courses.)						
<b>Art</b>	70.265-021	Computer Art I Studio (Lab Fee)	9:00-12:30 pm	M-Th	3		Department Faculty
	70.461-021	Photoworkshop In Finland	Time: TBA	TBA	3	Instructor Permission	Arno Minkkinen
	70.461-022	Photoworkshop of Finland	Time: TBA	TBA	6	Instructor Permission	Arno Minkkinen
	70.496-021	Practicum in Studio Art	Time: TBA	TBA	3	P: permission of Art Department	Department Faculty
	72.151-021	Stagecraft Internship	Time: TBA	TBA	1	Instructor Permission	William Brackett
	79.101-021	Art Appreciation	7:00-10:00 pm	T/Th	3	AE, HSA, Area II	Charles Giuliano
	79.494-021	Directed Study in Art History	Time: TBA	TBA	3	P: permission of Art History Coordinator	Department Faculty
	79.496-021	Practicum in Art History	Time: TBA	TBA	3	P: perm. of Art History Coordinator	Department Faculty
<b>Banking</b>	69.106-021	Real Estate Finance	7:00-10:00 pm	M/W	3		Department Faculty
<b>Biological Sciences</b>	81.347-021	Human Nutrition	9:45-11:45 am	M-Th	3	P: Intro Biology or instr. permission, SC	Priscilla Mattson
	83.102-021	Life Science II	7:00-10:00 pm	M/W	3	Area III; C: 83.104, SC	Siu Lam Lee
	83.104-021	Life Science II Lab (Lab Fee)	7:00-10:00 pm	T/Th	1 (2)	C: 83.102, Area III, SC	Siu Lam Lee

## Academic Credit Course Listing

# Academic Credit Course Listing

<b>Economics</b>	49.201-021	Economics I (Microeconomics)	9:45-11:45 am	M-Th	3	Area I, BS	Albert Cederlund
	49.201-022	Economics I (Microeconomics)	7:00-10:00 pm	M/W	3	Area I, BS	Department Faculty
	49.202-021	Economics II (Macroeconomics)	9:45-11:45 am	M-Th	3	Area I, BS	Michael Carter
	49.202-022	Economics II (Macroeconomics)	7:00-10:00 pm	T/Th	3	Area I, BS	Michael Carter
	49.211-021	Statistics I	7:30-9:30 am	M-Th	3	P: 92.122 or equivalent, BS	Department Faculty
	49.212-021	Statistics II	7:00-10:00 pm	T/Th	3	P: 49.211, BS	Thomas Macbeth
	49.321-021	International Trade Partnerships	6:00-9:00 pm	M/W	3		Zanaqui Brahim
CERTIFICATE IN INTERNATIONAL TRADE (See page 20 for required courses.)							
<b>Electrical Engineering</b>	16.202-021	Introduction to Circuit Theory II	Time: TBA	TBA	3	P: 16.201, 95.245; C: 16.208	Department Faculty
	16.208-021	Basic E. E. Lab II (Lab Fee)	Time: TBA	TBA	2 (4)	P: 16.207; C: 16.202	Department Faculty
	16.211-021	Fundamentals of Electricity	7:00-10:00 pm	T/Th	3	P: 92.132, 95.144	Ajay Noushin
	16.312-021	Electronics II Laboratory (Lab Fee)	Time: TBA	TBA	2 (4)	P: 16.311; C: 16.366	Department Faculty
	16.366-021	Electronics II	Time: TBA	TBA	3	P: 16.365; C: 16.312	Department Faculty
	16.410, 411, 412	Directed Studies	Time: TBA	TBA	3		Department Faculty
	16.461-021	Electromagnetic Theory II	Noon-2:00 pm	M-Th	3	P: 16.315, 16.360	Tenneti Rao
<b>Electronic Engineering Technology</b>	17.431-021	Electromagnetic Compatibility	7:00-10:00 pm	T/Th	3	P: 17.376	Albert Paradis
	CERTIFICATE IN ELECTRO-OPTICS (See page 20.)						
<b>English</b>	42.101-021	College Writing I	7:30-9:30 am	M-Th	3		Department Faculty
	42.101-022	College Writing I	7:00-10:00 pm	M/W	3		Department Faculty
	42.102-021	College Writing II	9:45-11:45 am	M-Th	3	P: 42.101	Department Faculty
	42.102-022	College Writing II	7:00-10:00 pm	T/Th	3	P: 42.101	Department Faculty
	42.104-021	College Writing II for Internatnl Students	7:00-10:00 pm	M/W	3	P: 42.103	Linda Berube
	42.212-021	The Short Story	7:00-10:00 pm	M/W	3	P: 42.102, Area II, LT	Department Faculty
	42.217-021	The Horror Story	9:45-11:45 am	M-Th	3	P: 42.102, Area II, LT	H. Venuti
	42.220-021	Personal and Reflective Writing	7:00-10:00 pm	M/W	3	P: 42.102	J. Dickerman-Nelson
	42.224-021	Business Writing	7:00-10:00 pm	M/W	3	P: 42.102	Rosalie Ryan
	42.226-021	Technical and Scientific Communication	6:30-9:30 pm	T/Th	3	P: 42.102	Dirk Messelaar
	42.232-021	Writers of the Merrimack Valley	7:00-10:00 pm	T/Th	3	P: 42.102, LT	Terry Farrish
	42.292-021	History of English Literature II	7:00-10:00 pm	M/W	3	P: 42.102, Area II, LT	Department Faculty
	42.295-021	History of American Literature II	7:00-10:00 pm	T/Th	3	P: 42.102, Area II, LT	Henry Venuti
	42.300-021	Journalism	7:00-10:00 pm	M/W	3	P: 42.102	Department Faculty
	42.301-021	Topics in Writing	7:00-10:00 pm	M/W	3		Department Faculty
<b>Environmental Technology</b>	(Also see offerings under Civil Engineering Technology, Chemistry, Environmental Sciences, Political Science, and Water/Wastewater Option)						
	15.420-021	Solid Waste Management	7:00-10:00 pm	T/Th	3	P: Junior status or instructor permission Nihar Mohanty	
CERTIFICATE IN ENVIRONMENTAL TECHNOLOGY (See page 20 for required courses.)							
<b>Health Professions</b>	30.305-021	Exercise Physiology Lecture	9:45-11:45 am	M-F	4	P: Anatomy and Physiology, Chemistry	Paul Fieremonte
	30.307-021	Exercise Physiology Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	C: 30.305	Paul Fieremonte
	35.102-021	Human Anatomy and Physiology II	9:45-11:45 am	M-Th	3	P: 35.101; C: 35.104, SC	John Prescott
	35.104-021	Human Anatmy & Physgyl II Lab (Lab Fee)	1:00-4:00 pm	TWTh	1 (3)	P: 35.103; C: 35.102, SC	Alease Bruce
<b>History</b>	43.106-021	The Modern World	7:30-9:30 am	M-Th	3	Area II, HS	Department Faculty
	43.112-021	U.S. History Since 1877	9:45-11:45 am	M-Th	3	Area II, HS	P. Hill-Ziegler
	43.379-021	The Second World War	7:00-10:00 pm	M/W	3	Area II, HS	Donald Matheisen
	43.365-021	U.S. History Since 1960	7:00-10:00 pm	T/Th	3	Area II, HS	William Jordan
<b>Industrial Technology</b>	(See separate listings under Manufacturing, Plastics, and Water/Wastewater Options)						
<b>Languages</b>	50.212-021	Intermediate Conversational French II	7:00-10:00 pm	T/Th	3	P: 50.211 or equivalent, Area II	Department Faculty
	51.212-021	Intermediate German II	7:00-10:00 pm	T/Th	3	P: 51.211, Area II	Robert Whelan
	51.491-021	Twentieth Century German Literature	6:00-9:00 pm	T/Th	3	Directed Study	Robert Whelan
	52.374-021	Classics of Italian Cinema	9:45-11:45 am	M-Th	3	Area II and Human Values, VC	Mario Aste
	52.380-021	Italian Cinema Directors & Themes	7:30-9:30 am	M-Th	3	Area II, AE, VC (in English)	Mario Aste
	53.102-021	Beginning Japanese II	7:00-10:00 pm	T/Th	3	P: 53.101	Department Faculty
	53.104-021	Beginning Russian II	7:00-10:00 pm	M/W	3	P: 53.103	Department Faculty
	54.102-021	Beginning Spanish II	7:30-9:30 am	M-Th	3	P: 54.101 or equivalent	John Staulo
	54.102-022	Beginning Spanish II	7:00-10:00 pm	M/W	3	P: 54.101 or equivalent	Department Faculty
	54.212-021	Intermediate Conversational Spanish II	9:45-11:45 am	M-Th	3	P: 54.211 or equivalent, Area II	John Staulo
	54.212-022	Intermediate Conversational Spanish II	7:00-10:00 pm	T/Th	3	P: 54.211 or equivalent, Area II	Department Faculty
<b>Legal Studies</b>	41.262-021	Introduction to Business Law	7:00-10:00 pm	M/W	3	BS, Collateral Criminal Justice	Eugene Reardon
	41.363-021	Corporate and Property Law	7:00-10:00 pm	T/Th	3		Eugene Reardon
	41.365-021	Legal Environment	7:00-10:00 pm	M/W	3	Human Values	James Gaffney
	41.367-021	Environmental Law	7:00-10:00 pm	M/W	3		Frank Grimaldi
	41.370-021	Real Estate Law	7:00-10:00 pm	T/Th	3		Russell Karl
	41.381-021	Women and the Law	9:45-11:45 am	M-Th	3		Jane McElligott
	41.387-021	Legal Research Methods (Lab Fee)	7:00-10:00 pm	T/Th	3		Jane McElligott
<b>Management</b>	62.201-021	Marketing Principles	7:00-10:00 pm	M/W	3	P: 47.101, 48.101, 49.201	Mel Epstein
	69.276-021	Entrepreneurial Management of New & Small Enterprises	7:00-10:00 pm	T/Th	3		Mel Epstein
	69.251-021	Personnel Management	7:00-10:00 pm	T/Th	3		Department Faculty
	CERTIFICATE IN PURCHASING MANAGEMENT (See page 20.)						
<b>Manufacturing Option</b>	(See Mechanical Engineering Technology)						
<b>Marketing</b>	CERTIFICATE IN MANUFACTURING TECHNOLOGY (See page 20.)						
	62.201-021	Marketing Principles	7:00-10:00 pm	M/W	3		Mel Epstein
<b>Mathematics</b>	90.111-021*	Fundamentals of Algebra	7:00-10:00 pm	M/W	3		Eugene Welch, Jr.
	92.111-021	Mathematical Perspectives	9:45-11:45 am	M-Th	3		Alan Kaplan
	92.115-021	College Trigonometry	7:00-10:00 pm	M/W	3	P: 92.121, MA	John Burke
	92.121-021**	Pre-Calculus Mathematics	7:30-9:30 am	M-Th	3	Area III, MA	Department Faculty
	92.121-022**	Pre-Calculus Mathematics	7:00-10:00 pm	M/W	3	P: 90.111 or placement exam, ***	Robert Gravina
	92.122-021	Differential Calculus	9:45-11:45 am	M-Th	3	P: 92.121, Area III, MA	Department Faculty
	92.125-021	Calculus A	7:00-10:00 pm	M/W	3	P: 92.115, MA	Allan Gibbs
	92.126-021	Calculus B	7:00-10:00 pm	M/W	3	P: 92.125, MA	Theresa Saracusa
	92.128-021	Calculus IB	9:45-11:45 am	M-F	4	P: 92.127, MA	John Burke
	92.131-021	Calculus I	9:45-11:45 am	M-F	4	MA	Marvin Stick
	92.132-021	Calculus II	7:30-9:30 am	M-F	4	P: 92.131, MA	Alan Kaplan
	92.132-022	Calculus II	9:45-11:45 am	M-F	4	P: 92.131, MA	James Graham-Eagle
	92.183-021	Introduction to Statistics	7:30-9:30 am	M-Th	3	P: 90.111 or equivalent, Area III, MA	Alexander Olsen
	92.183-022	Introduction to Statistics	7:00-10:00 pm	M/W	3	P: 90.111 or equivalent, Area III, MA	Department Faculty
	92.201-021	Integral Calculus	9:45-11:45 am	M-Th	3	P: 92.122, Area III, MA	Alexander Olsen
	92.201-022	Integral Calculus	7:30-9:30 am	M-Th	3	P: 92.122, Area III, MA	Marvin Stick</

# Academic Credit Course Listing

92.226-021	Calculus D	7:00-10:00 pm	M/W	3	P: 92.225, MA	Rida Mirie
92.231-021	Calculus III	7:30-9:30 am	M-F	4	P: 92.132, MA	James Graham-Eagle
92.234-021	Differential Equations	7:00-10:00 pm	T/Th	3	P: 92.132 or 92.225, MA	Rida Mirie
92.263-021	FORTRAN Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.112 or 92.121 or equivalent, SC	James Brzowski
92.265-021	Pascal Programming (Lab Fee)	9:45-11:45 am	M-Th	3	P: 90.112 or 92.121 or equiv, Area III, SC	Ann Marie Hurley
92.265-022	Pascal Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.112 or 92.121 or equiv, Area III, SC	James Brzowski
92.267-021**	C Programming (Lab Fee)	Noon-2:00 pm	M-Th	3	P: 92.265, SC	Ann Marie Hurley
92.267-022**	C Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.265, SC	Paul Nagle
92.267-023**	C Programming (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.265, SC	Timothy Niesen
92.268-021	C++ Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.267, SC	Brian Hodges
92.305-021	Introduction to Real Analysis I	9:45-11:45 am	M-Th	3	P: 92.301	James Graham-Eagle
92.311-021	Intro to the UNIX Operating Sys. (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.267 or 92.211 and 92.364	Sean McGowan
92.321-021	Discrete Structures I	7:00-10:00 pm	M/W	3	P: 90.112 or 92.121	Anthony Penta
92.386-021	Statistics for Science and Engineering	7:00-10:00 pm	M/W	3	P: 92.226 or 92.132	Department Faculty
92.485-021	Queueing Theory	6:00-9:00 pm	T/Th	3	P: 92.307 or 92.386 with permission	Mark Yin

\*Fundamentals of Algebra (90.111) is a preparatory course and cannot be credited toward a degree program at the University of Massachusetts Lowell.

\*\*Students may not receive credit for both 90.112 and 92.121. Students may not receive credit for both 92.211 and 92.267.

\*\*\*Placement exam is given the first evening of class.  
Many 500-level courses are well within the grasp of upper level undergraduates and may be used as electives. Refer to the Graduate School listing and contact the Graduate School for admissions procedures. University of Massachusetts Lowell Day students must have approval from the mathematics coordinator before taking courses with a 90 prefix.

<b>Mechanical Engineering</b>	22.212-021	Mechanics of Materials	7:30-9:30 am	M-Th	3	P: 22.211, 92.225 or 92.231	Department Faculty
	22.302-021	Mechanical Engineering Lab I: (Lab Fee) Instrumentation/Measurement	Time: TBA	T/Th	2 (3)	P: junior status	Department Faculty
	22.403-021	Mechanical Engineering Lab II: (Lab Fee) Measurement Engineering	Time: TBA	TBA	2 (3)	P: 22.302, 22.311, 22.354, 22.381	A.Mescher/Bousquet
	22.242-021	Thermodynamics	7:30-9:30 am	M-Th	3	P: 25.101, 25.102, 92.231, 95.144	Y. Zilberberg

<b>Mechanical Engineering Technology and Manufacturing Option</b>	23.102-021	Engineering Graphics II	7:00-10:00 pm	T/Th	2 (3)	P: 23.101	Bradley Mingles
	23.223-021	Mechanics of Materials	7:00-10:00 pm	M/W	3	P: 23.221, 92.126	Marilynn Kepler
	23.243-021	Elements of Thermodynamics II	7:00-10:00 pm	T/Th	3	P: 23.241	Vernon Oliver
	23.419-011	CAM (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 23.305 or 23.306	David Ierardi
	23.426-021	Quality Systems Certification/ISO 9000	7:00-10:00 pm	T/Th	3	P: 23.314	Charles Priest
	23.480-021	CADeS (Lab Fee)	7:00-10:00 pm	M/W	3	P: 23.200, 23.354	Robert Maffia

CERTIFICATE IN MANUFACTURING TECHNOLOGY (See page 20.)

<b>Multimedia Applications</b>	(See Computer Mathematics)						
<b>Music</b>	71.100-021	Fundamentals of Musicianship	7:30-9:30 am	M-Th	3	Music Majors only	Eleanor Trawick
	71.110-021	Basic Music Theory	7:00-10:00 pm	M/W	3	Non-Music majors, Area II, AE	Juanita Tsu
	71.202-021	Music Theory IV	9:45-11:45 am	M-Th	3	P: 71.201, Music majors only	Mark Peterson
	71.203-021	Solfège III	7:30-9:30 am	M-Th	3	P: 71.104	Lisa Cleveland

<b>Paralegal</b>	41.287-021	Legal Writing	7:00-10:00 pm	M/W	3		Department Faculty
<b>(also see Legal Studies &amp; Criminal Justice)</b>	41.363-021	Corporate and Property Law	7:00-10:00 pm	T/Th	3		Eugene Reardon
	41.370-021	Real Estate Law	7:00-10:00 pm	T/Th	3		Russell Karl
	41.387-021	Legal Research Methods	7:00-10:00 pm	T/Th	3		Jane McElligott
	41.392-021	Will Trusts and Estates	7:00-10:00 pm	M/W	3		Debra Thompson

Please see admission requirements to the Paralegal Certificate on page 20. Courses are open only to students currently enrolled in the Paralegal Certificate. Courses are available to other students on a space available basis.

<b>Philosophy</b>	45.201-021	Introduction to Philosophy	9:45-11:45 am	M-Th	3	Area II and VC,HV	Elizabeth Gleason
	45.201-022	Introduction to Philosophy	7:00-10:00 pm	M/W	3	Area II and VC, HV	Donald LeBlanc
	45.202-021	Introduction to Logic	7:00-10:00 pm	T/Th	3	Area II and VC	Peter Skagestad
	45.203-021	Introduction to Ethics	7:00-10:00 pm	T/Th	3	Area II and VC, HV	Michael Koran

<b>Physics</b>	95.104-021	General Physics II	7:30-9:30 am	M-Th	3	P: 95.103; C: 96.104, SC	Roger McLeod
	95.121-021	Exploring the Universe	7:30-9:30 am	M-Th	3	SC, Area III	Paul Ring
	95.141-021	Physics I	9:45-11:45 am	M-F	3 (4)	P: 92.131, C: 96.141, SC	Kunnat Sebastian
	95.144-021	Physics II	9:45-11:45 am	M-F	3 (4)	P: 95.141, 92.132, C: 96.144, SC	Paul Ring
	96.104-021	Experimental General Physics II (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	C: 95.104, SC	Department Faculty
	96.141-021	Experimental Physics I (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	C: 95.141, SC	Department Faculty
	96.144-021	Experimental Physics II (Lab Fee) (2 afternoons per week)	2:15-5:15 pm	TBA	1 (1.5)	P: 96.141; C: 95.144, SC	Department Faculty
	99.101-021	Radiation and Life	9:45-11:45 am	M-Th	3	C: 99.102, Area III	Duane Quayle
	99.102-021	Radiation and Life Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (2)	C: 99.101, Area III	Duane Quayle
		(requires 2 additional evenings for a total of 16 meetings)					

<b>Plastics</b>	27.453-021	Selected Topics III:	7:00-10:00 pm	M/W	3	P: Instructor permission	Stephen Driscoll
	27.454-021	Selected Topics IV	7:00-10:00 pm	T/Th	3	P: Instructor permission	Stephen Driscoll
Courses with the 27 prefix are not eligible for graduate credit.							
CERTIFICATE IN PLASTICS ENGINEERING TECHNOLOGY (See page 20.)							

<b>Political Science</b>	46.101-021	Introduction to American Politics	9:45-11:45 am	M-Th	3	Area I, BS	Dean Bergeron
	46.357-021	American Environmental Politics	Noon-2:00 pm	M-Th	3	VC, BS	Dean Bergeron
	46.121-021	Intro to International Relations	7:00-10:00 pm	M/W	3	Area I, BS	Paula McCabe

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# Summer Session I GRADUATE COURSES

Except as noted: Day classes begin on May 20.  
M/W Evening Classes begin on May 20.  
T/Th Evening Classes begin on May 21.

No.	Title	Time	Days	Cr(Co)	P: Prerequisite/ Corequisite/Other	Instructor
<b>Business Administration</b>	(See above for restrictions on courses marked with a '+')					
	+61.760-011 International Financial Management	6:00-9:00 pm	M/W	3	P: completion of Foundations core	Yash Puri
	+62.710-011 Marketing Research	6:00-9:00 pm	M/W	3	P: completion of Foundations core	Department Faculty
	61.501-011 Business Financial Analysis	Time: TBA	Th	3		Department Faculty
	62.781-011 New Products	6:00-9:00 pm	M/W	3		Department Faculty
	63.791-011 Manufacturing Simulation	6:00-9:00 pm	T/Th	3		James Monahan
	66.501-011 Organizational Behavior	6:00-9:00 pm	M/W	3		Department Faculty
<b>Civil Engineering</b>	63.790-011 Spec. Topics, Operations Mgt.	6:00-9:00 pm	M/W	3		Joyce Mehring
	18.503-011 GIS for Environmental Studies (lab fee)	7:00-10:00 pm	T/Th	3		P. Osterroth
	91.500-021 Fundamental Models	6:00-9:00 pm	T/Th	3	(13 weekly meetings)	Peter Weston
	91.502-021 Foundatns of Computer Science (Lab Fee)	6:00-9:00 pm	T	3	(15 weekly meetings)	Charles Steele
	91.510-021 Topics in Algorithms (Lab Fee)	6:00-9:00 pm	TBA	3	(15 weekly meetings)	Charles Steele
	91.523-021 Software Engineering I (lab fee)	6:00-9:00pm	M	3	(15 weekly meetings)	Robert Lechner
	91.583-021 Trans. Analysis of Algorithms (Lab Fee)	6:00-9:00 pm	M	3	(15 weekly meetings)	Richard Epstein
<b>Criminal Justice</b>	91.585-021 Trans. Computer Architecture (Lab Fee)	6:00-9:00 pm	W	3	(13 weekly meetings)	D. Hendrickson
	91.588-021 Trans. Operating Systems (Lab Fee)	6:00-9:00 pm	W	3	(13 weekly meetings)	Department Faculty
	44.493-011 Computer Crime	7:30-9:30 am	M-Th	3		Joseph Lipchitz
	44.496-011 Practicum	9:45-11:45 am	M-Th	3		Renee Kasinsky
	44.521-011 Criminological Therry*	5:00-8:00 pm	M/W	3		R. Corbett
	44.560-011 Gender, Race and Crime (Boston)*	6:00-9:00 pm	T/Th	3		Renee Kasinsky
	44.590-011 Research Methods in CJ*	5:00-8:00pm	T/Th	3		D. Cavanaugh
*(Held in Boston at the McCormick Building)						
<b>Electrical Engineering</b>	(Note: All Electrical Engineering courses begin the week of May 20 and end the week of July 22, 1996, unless otherwise noted.)					
	16.528-011 Alternate Energy Sources (6 weeks)	6:00-9:00 pm	M/W	3	P: Instructor permission	Ziyad Salameh
	16.574-021 Advanced Logic Design	6:00-8:00 pm	M/W	3	P: 16.217, 16.265	Anh Tran
	16.700-021 Seminar	6:00-8:00 pm	T/Th	3	P: Minimum 15 graduate credits	David Wade
	16.721-021 Special Topics: Fuzzy Systems Theory and Applications	6:00-8:00 pm	M/W	3		Syama Chaudhuri
	16.724-021 Special Topics: Neural Networks	6:00-8:00 pm	T/Th	3		Khanh Luong
<b>Health Professions</b>	34.615-011 Clinical Education I	8:00am-5:00pm	M-S	2(4)	P: 1st yr Phys.Therapy Grad students only	C Seymour/G. Dybel
	32.629-011 Long-Term Care Administration	6:00-9:00 pm	T/Th	3		Chester Jakubiak
	32.625-011 Health Policy	6:00-9:00 pm	M/W	3		Department Faculty
	34.640-011 Advanced MS Evaluation & Treatment: the spine	6:00-9:00 pm	M/W	3	P: Physical Therapists	C. Seymour
<b>Mathematics</b>	92.500-011 Discrete Structures	3:00-6:00 pm	T/Th	3		Alan Doerr
	92.516-011 Pattern Recognition & Neural Networks	5:30-8:00 pm	T/Th	3	P: 92.386/Linear Algebra or equivalent	Lee Jones
	92.520-011 Mathematical Problem Solving	6:00-9:00 pm	T/Th	3	P: 92.226 or 92.231 or equivalent	Kenneth Levasseur
	92.521-011 Algebraic Structures I	Noon-2:00 pm	M-Th	3	P: 92.221 or 92.321	Alan Doerr
	92.550-011 Mathematical Modeling	5:30-8:00 pm	T/Th	3	P: 92.231 or equivalent	James Graham-Eagle
	92.580-011 Combinatorics	5:30-8:00 pm	M/W	3	P: Calculus & Discrete Struct.or equiv.	Mark Yin
<b>Plastics</b>	26.500-011 Advanced Projects Plastics (Non lab)	TBA	TBA	3	P: instructor permission	Rudolph Deanin
	26.500-012 Advanced Projects (Lab)	TBA	TBA	3	P: instructor permission	Rudolph Deanin
	26.538-011 Selected Topics	TBA	TBA	3	P: instructor permission	Rudolph Deanin
<b>Psychology</b>	47.531-011 Substance Abuse	6:00-9:00 pm	T/Th	3		Richard Siegel
	47.534-011 Diversity in the Family	6:00-9:00 pm	M/W	3		Peter Hantzis
	47.551-011 Psychosocial Aspects of Aging	6:00-9:00 pm	T/Th			Kevin Callahan
<b>Radiological Science</b>	98.681-011 Medical Physics	Time: TBA	TBA	3		Department Faculty
	98.687-011 Medical Physics Internship	Time: TBA	TBA	3		Department Faculty
	98.697-011 Adv.Graduate Medical Physics Internship	Time: TBA	TBA	3		Department Faculty

# Summer Session II GRADUATE COURSES

Except as noted: Day classes begin on July 8.  
M/W Evening Classes begin on July 8.  
T/Th Evening Classes begin on July 9.

No.	Title	Time	Days	Cr(Co)	Prerequisite/Corequisite/Other	Instructor
<b>Business Administration</b>	63.790-021 Special Topics in MIS	6:00-9:00 pm	M/W	3		Reza Bharki
<b>Health Professions</b>	34.634-021 Clinical Education Experience II	8:00am-4:00pm	TBA	2(4)	P: Clinical Education Experience I	S.O'Sullivan/L.D'Angelo
<b>Mathematics</b>	92.585-021 Queueing Theory	6:00-9:00 pm	T/Th	3	Combined with 94.485-021	Mark Yin
<b>Plastics</b>	26.500-021 Advanced Projects (Non lab)	Time: TBA	TBA	3	P: instructor permission	Rudolph Deanin
	26.500-022 Advanced Projects (Lab)	Time: TBA	TBA	3	P: instructor permission	Rudolph Deanin
	26.539-021 Selected Topics: Plastics	Time: TBA	TBA	3		Rudolph Deanin
<b>Psychology</b>	47.503-021 Applied Social Psychology	6:00-9:00 pm	T/Th	3		W. Berkowitz
	47.511-021 The Family System	6:00-9:00 pm	M/W	3		S. Hamby
<b>Radiological Sciences</b>	98.687-021 Graduate Medical Physics Internship	Time: TBA	TBA	3		Department Faculty
	98.697-021 Adv. Graduate Medical Physics Internship	Time: TBA	TBA	3		Department Faculty





# COMMUNITY EDUCATION (Noncredit) Course Listing

## COMMUNITY EDUCATION

### Noncredit Course Listing

If you have any questions regarding the Community Education Noncredit Courses, please call the Office of Enrollment Services/Continuing Education at (508) 934-4996 or fax at (508) 934-3087.

**See registration dates and procedures on pages 2-4.**

### Tuition and Fees

The tuition is indicated after each course description. There is a registration fee of \$15.00 which is listed on the registration form. In addition to the tuition and fees listed, certain courses require the purchase of materials and equipment. Every effort is made to keep these additional expenses to a minimum.

### Senior Citizen Waivers

Participants who are 60 and older may register for a Community Education course on a "space available" basis without payment of tuition charges. A fee payment of \$15.00 per course will be charged and there may be a charge for class materials or texts.

**PLEASE NOTE:** Courses marked with an asterisk(\*) are not available at the reduced tuition rates for senior citizens, state employees, etc.

## ART, HOME, DESIGN & CRAFTS

### Basic Drawing Techniques: From Still Life to Human Figure

[00.101-011]  
Summer I

Instructor: David Lowrey

A variety of drawing assignments from still life to figures using different drawing media. The class will cover the principles of drawing as well as life drawing using the "right side of the brain."

Tues: 7:00-9:30 pm-6 wks-Begins 5/21/96-Tuition: \$55.00

### Portrait Drawing/Painting

[00.103-011]  
Summer I

Instructor: David Lowrey

This course covers the techniques of drawing and painting the human face. Students may work in pastels or oils and advance at their own pace.

Mon: 7:00-9:30 pm-6 wks-Begins 5/20/96-Tuition: \$85.00

### Caricature Carving

[00.119-011]  
Summer I

Instructor: Rupert Stangroom

Carve sea captains, cowboys, fishermen and other in-the-round characters. Learn to carve faces and hands and how to paint your figures. Cut-outs will be available. Tool sharpening will also be covered. Some basic knowledge of woodcarving desirable.

Wed: 7:00-9:30 pm-6 wks-Begins 5/22/96-Tuition: \$85.00

### NEW! Writing & Drawing Children's Books for Writers

[00.216-011]  
Summer I

Instructor: Robin Hansen

This course is designed to teach all elements of children's book creation from idea to finish. We will make a book dummy and learn the process of submitting work to publishers. Key focus is on the writing. Beginners welcome. The course is taught by an award winning illustrator and author of children's books.

Tues: 6:00-9:00 pm-6 wks-Begins 5/21/96-Tuition: \$60.00

### NEW! Writing & Drawing Children's Books for Artists

[00.217-011]  
Summer I

Instructor: Robin Hansen

A course designed to teach all aspects of children's book creation, with a focus on the design and illustration of books. Taught by an award winning illustrator and author of children's books.

Thurs: 6:00-9:00 pm-6 wks-Begins 5/23/96-Tuition: \$60.00

### African Textiles

[00.111-011]  
Summer I

Instructor: Molly Martin

Savor the richness and diversity of sub-Saharan Africa through a study of the production, function and cultural significance of these works of art.

Thurs: 7:30-9:30 pm-3 wks-Begins 6/13/96-Tuition: \$45.00

### Using Your Herb Garden: Fragrant & Savory Harvest

[00.151-011]  
Summer I

Instructor: Betsy Williams

Vinegars, potpourri, cooking, butters, jellies, sauces, pestos, wines, as well as freezing & drying herbs for winter. Tasting and hands-on included! Simple cosmetics. Preserving leaves with glycerine. Harvesting for dried flower arrangements: Plus a \$5 materials fee.

Thurs: 7:00-8:30 pm-2 days-6/6/96 & 6/13/96-Tuition: \$35.00

### Interior Design

[see #'s below]  
Summer I

Instructor: Nancy Lesofsky

Learn how fabric, light, wall and floor treatments, together with furnishing and accessories can be combined to create unique environments reflecting individual tastes and life-styles.

Section A: Thurs, 5:00-7:00 pm-4 wks-Begins 5/23/96-Course #: [00.133-011]-Tuition: \$40.00

Section B: Thurs, 7:00-9:00 pm-4 wks-Begins 5/23/96-Course #: [00.133-012]-Tuition: \$40.00

### Quilting for Beginners

[00.129-011]  
Summer I

Instructor: Frances Ward

Learn the basics of quilt making including 9 patch, 8 pointed star, hand appliquéd, log cabin and quilt assembly techniques. Stitching in class is by hand. Quilt assembly is by machine. No prior experience necessary.

Wed: 7:00-9:00 pm-6 wks-Begins 5/22/96-Tuition: \$70.00

### \*How to Open and Run a Bed & Breakfast Inn

[00.145-011]  
Summer I

Instructor: Greg Brown

Helps prospective innkeepers understand whether or not this is the lifestyle and business climate that they are looking for. Addresses four major areas: locating a bed & breakfast, financing your inn, licenses and zoning, marketing and advertising, and the nuts and bolts of innkeeping. Sat: 9:00 am-5:00 pm-1 day-6/8/96-Tuition: \$75.00

## MUSIC, LITERATURE & HISTORY

### Screenwriting for Film & Television

[00.204-011]  
Summer I

Instructor: William Holland

Learn the basic elements of dramatic writing (plotting and character development) using the three-act structure. Other topics include: how to find an agent, where to submit material, and how to present your script. Each student's goal will be to develop a full-length screenplay in outline form and to submit a "polished" first act (25-30 pages).

Sat: 9:30 am-4:30 pm-6 wks-Begins 5/25/96-Tuition: \$120.00

### Creative Writing for Serious Beginners

[00.220-011]  
Summer I

Instructor: Raymond J. Harding

This course will cover the basics of technique and style, and will include an in-depth examination of plot development, setting, character and theme. The course will also deal with the practical aspects of getting one's work into print including how to select and impress an agent, how to prepare a manuscript, and how to read the market. Wed: 6:30-8:30 pm-6 wks-Begins 5/22/96-Tuition: \$90.00

### NEW! The Vocal Workshop

[00.260-011]  
Summer I

Instructor: Deborah Gruber, B.M., M.M.

This introductory workshop will expose students to the fundamentals of singing. Through fun exercises and favorite show tunes and popular songs, we will explore such concepts as relaxation, posture, breathing, coordination, resonance, flexibility, stylistic expression, and articulation. The format is both recreational and educational. Each student will receive a professional evaluation of his/her voice, a booklet of exercises, and a practice cassette for home study.

Mon: 6:30-9:30 pm-1 eve.-6/3/96-Tuition: \$60.00

### Introduction to Guitar

[00.238-011]  
Summer I

Instructor: David Surette

Designed to introduce the novice guitarist to the various aspects of playing. Note reading, chords, technique and exposure to the different styles of guitar playing are among the topics that will be covered. Students must bring their own guitar and note book.

Wed: 5:30-7:30 pm-6 wks-Begins 5/22/96-Tuition: \$80.00

### Guitar Repertoire

[00.240-011]  
Summer I

Instructor: David Surette

A class aimed at students who have completed "Intermediate Guitar" and want to expand their repertoire, as well as new students already playing at an intermediate level. The class will focus on acoustic folk and folk/rock songs from the 60's through the 90's, and will include a special unit on blues guitar.

Wed: 8:00-9:30 pm-6 wks-Begins 5/22/96-Tuition: \$80.00

## ESL, LANGUAGE & CULTURE

### Conversational Spanish I

[see #'s below]  
Summer I & II

Instructor: Fausta Asimakopoulos

Designed for the person who wants to become familiar with Spanish, this course emphasizes useful, everyday conversation that is essential when traveling or working.

Section A: Tues: 5:30-7:30 pm-6 wks-Begins 5/21/96-

Course #: [00.321-011]-Tuition: \$45.00

Section B: Tues: 5:30-7:30 pm-6 wks-Begins 7/9/96-

Course #: [00.321-021]-Tuition: \$45.00

### Conversational Spanish II

[see #'s below]  
Summer I & II

Instructor: Fausta Asimakopoulos

A continuation of Conversational Spanish I, with additional emphasis on conversational skills.

Section A: Wed: 5:30-7:30 pm-6 wks-Begins 5/22/96-

Course #: [00.322-011]-Tuition: \$45.00

Section B: Wed: 5:30-7:30 pm-6 wks-Begins 7/10/96-

Course #: [00.322-021]-Tuition: \$45.00

### Conversational Spanish III

[see #'s below]  
Summer I & II

Instructor: Fausta Asimakopoulos

A continuation of Conversational Spanish II, with additional emphasis on conversational skills and awareness of Spanish culture. Emphasis is on the acquisition and use of practical oral vocabulary used in everyday situations.

Section A: Thurs: 5:30-7:30 pm-6 wks-Begins 5/23/96-

Course #: [00.365-011]-Tuition: \$45.00

Section B: Thurs: 5:30-7:30 pm-6 wks-Begins 7/11/96-

Course #: [00.365-021]-Tuition: \$45.00

### Beginning Conversational French

[see #'s below]  
Summer I & II

Instructors: Dr. R. Lacerte & E. Tabea

Designed for the beginner with little or no knowledge of the French language. This course takes a conversational approach emphasizing vocabulary, correct pronunciation, proper word order.

Section A: Tues: (Lacerte) 7:00-9:00 pm-6 wks-

Begins 5/21/96-Course #: [00.331-011]-Tuition: \$70.00

Section B: Thurs: (Tabea) 7:00-9:00 pm-6 wks-

Begins 7/11/96-Course #: [00.331-021]-Tuition: \$70.00

### Intermediate Conversational French

[see #'s below]  
Summer I & II

Instructors: Dr. R. Lacerte & E. Tabea

A continuation of Beginning French, providing additional exposure to the French language.

Section A: Mon: (Tabea) 7:00-9:00 pm-6 wks-

Begins 5/20/96-Course #: [00.332-011]-Tuition: \$70.00

Section B: Wed: (Lacerte) 7:00-9:00 pm-6 wks-

Begins 7/10/96-Course #: [00.332-021]-Tuition: \$70.00

### Advanced Conversational French

[see #'s below]  
Summer I & II

Instructors: Dr. R. Lacerte & E. Tabea

Designed to give students who have mastered the essentials of oral French (pronunciation, intonation, and word order) further practice and to develop reading and simple writing skills.

Section A: Sat: (Tabea) 1:00-3:00 pm-6 wks-

Begins 5/25/96-Course #: [00.333-011]-Tuition: \$70.00

Section B: Thurs: (Lacerte) 7:00-9:00 pm-6 wks-

Begins 7/11/96-Course #: [00.333-021]-Tuition: \$70.00

### NEW! French Culture: Advanced

[00.366-011]<br

# COMMUNITY EDUCATION (Noncredit) Course Listing

## \*English Pronunciation for Foreign-Born Speakers I

Instructor: Gailanne Desmond

Developed for those who have a good command of the English language, but find their accent to be a problem. Students will improve listening skills necessary to discriminate between sounds. A personal speech analysis and participation in drill activities to improve pronunciation patterns will also be a part of the class. Students are encouraged to bring a tape recorder and blank cassettes to class. Section A: Thurs: 6:00-7:30 pm-6 wks-Begins 5/23/96-Course #: [00.354-011]-Tuition: \$55.00 Section B: Thurs: 6:00-7:30 pm-6 wks-Begins 7/11/96-Course #: [00.354-021]-Tuition: \$55.00

## English as a Second Language - Writing for Everyday Use

[00.356-011] Summer I

Instructor: Sr. Cecile Duquette, s.c.o.

Beginners to intermediate level students develop the writing skills necessary in practical life situations. Sentence structure and meaningful, well-constructed paragraphs (with emphasis on individual differences) are the main objectives of this course.

Tues: 5:30-7:30 pm-6 wks-Begins 5/21/96-Tuition: \$55.00

## DANCE, FITNESS, SPORTS & RECREATION

**NOTE: All participants must sign a statement of physical condition the first night of class.**

### \*Tai-Chi

Instructor: Rachel Robinson

Tai-Chi is the traditional Chinese form of exercise practiced early in the morning in parks all over China. You are left feeling alert, yet very relaxed with increased focus, harmony, balance and strength. The exercise is done very slowly and all ages can benefit.

Sat: 9:00-11:00 am-6 wks-Begins 5/25/96-Tuition: \$55.00

### \*Yoga

Instructor: Lynn Simon

Yoga is a science of self-care, with deep relaxation without the strain and fatigue of other types of exercise. Relieve tension and stress while strengthening, stretching, and toning the body. We will learn postures, breathing and relaxation techniques. Bring a mat or blanket.

Section A: Tues: 6:30-8:00 pm-6 wks-Begins 5/21/96-Course #: [00.504-011]-Tuition: \$50.00

Section B: Sat: 9:30-11:00 am-6 wks-Begins 5/25/96-Course #: [00.504-012]-Tuition: \$50.00

### NEW! \*Intermediate Yoga

[00.568-011] Summer I

Instructor: Lynn Simon

A continuing level class for students who want to "pick up the pace." Bring a mat.

Thurs: 6:30-8:00 pm-6 wks-Begins: 5/23/96-Tuition: \$50.00

### \*Meditation

Instructor: Lynn Simon

Meditation, a tool for personal growth, helps us "let go" and regain control of body and mind. Heighten creativity, awareness, calm oneself through "relaxation response."

Tues: 8:15-9:30 pm-6 wks-Begins 5/21/96-Tuition: \$35.00

### \*Meditation II

[00.569-011] Summer I

Instructor: Lynn Simon

A continuing level class for "experienced" meditators.

Thurs: 8:15-9:30 pm-6 wks-Begins 5/23/96-Tuition: \$35.00

### Boating Skills & Seamanship

[00.525-011] Summer I

Instructors: Arnold & Elizabeth

Greenhouse, U.S. Coast Guard Auxiliary

Designed for the beginning boater or the boater who wants to update his/her knowledge. Topics covered include boat construction and nomenclature, boat handling, safety, and legal requirements, navigation rules, aids to navigation, trailering, and marlinspike seamanship. For additional information call (508) 458-7676.

Tues: 7:30-9:30 pm-6 wks-Begins 5/21/96-Tuition: \$45.00

### Adult Swimming & Recreation

[00.520-011] Summer I

Instructor: Julie McCormick

For the 1st class meeting, beginners and intermediates 18 yrs. of age or older will meet together at 6:00 pm where the participants' abilities will be tested. Students are then placed in the proper class category for the next class session. Participants are expected to sign a statement of physical condition. Classes are co-ed.

**Beginners:** Prepares the nonswimmer for safe, recreational activity in or about the water.

Fri: 6:00-7:00 pm-Recreation period: 7:00-7:30 pm-6 wks-Begins 5/24/96-Tuition: \$80.00

**Intermediates:** Familiarizes participants with proper stroke mechanics in 5 categories: elementary backstroke, side-stroke, breast stroke, front crawl, and distance swimming.

Fri: 7:30-8:30 pm-Recreation period: 7:00-7:30 pm-6 wks-Begins 5/24/96-Tuition: \$80.00

## Attention HVAC Professionals

HVAC Contractors, Refrigerant Suppliers, Building Managers

UMass Lowell Special Programs and the Mechanical Engineering Department are pleased to offer EPA-approved Air Conditioning/Refrigeration Certification (Types I, II, III, & Universal) program. For further details about this program call 508-934-2405.

[see #'s below]  
Summer I & II

## Fly Tying

Instructor: Jack Johnson

Basic Fly tying instruction covering the dry fly, wet fly, streamer, bucktails, and salmon flies. Tying techniques for other types of flies to be used for salmon, trout, bass and saltwater fishing. Students must bring scissors, vise, cement.

Tues: 6:30-9:30 pm-7 wks-Begins 5/21/96-Tuition: \$70.00

## Fly Fishing

Instructor: Jack Johnson

This comprehensive course will teach the beginning fly fisher the history, equipment, quarry, habitat, behavior of fish, casting and many other aspects of fly fishing as a recreational sport.

Wed: 6:30-9:30 pm-7 wks-Begins 5/22/96-Tuition: \$70.00

## Wine Tasting Workshop - Connoisseur

Instructor: Charles Saunders

An introduction to the major wine regions, varieties and types. Tasting and serving techniques will be explored, along with the fundamentals and uses of wine.

Approximately 25 wines will be tasted. An additional \$25.00 to cover the cost of the wines is due at the 1st meeting. Students must be of legal drinking age.

Tues: 7:00-9:30 pm-6 wks-Begins 5/21/96-Tuition: \$45.00

## Wine Tasting Workshop - Advanced (Oenophile)

Instructor: Charles Saunders

An advanced wine workshop which explores more details and specific regions of: California, France, Italy, Portugal and Spain. Approximately 35 wines will be tasted. An additional \$35.00 to cover the cost of the wines will be collected at the 1st meeting. Students must bring 2 glasses to each class. Students must be of legal drinking age.

Wed: 7:00-9:30 pm-6 wks-Begins 5/22/96-Tuition: \$45.00

## Beginning Magic

Instructor: Donald Sanborn

This course is designed for teens and adults. Students will learn two or three feats of magic per night and be able to perform them using sleight of hand and self-working effects with cards, coins and readily available props. Also covered will be magic stores, associations, and magazines. Students should bring a deck of cards to the first lecture.

Thurs: 7:00-9:30 pm-7 wks-Begins 5/23/96-Tuition: \$65.00

## FINANCE & REAL ESTATE

**Actions taken as a result of these courses is the sole responsibility of the participant. UMass Lowell assumes no responsibility.**

### Personal Financial Planning

Instructor: Chris Outchunis

This course will cover a variety of personal money management topics including: building a financial plan, savings, insurance, tax-advantaged investments, real estate investments, stocks and bonds, personal budgeting, financing children's education, retirement planning and investing in an IRA/Keough.

Wed: 7:00-9:30 pm-4 wks-Begins 5/22/96-Tuition: \$40.00

### NEW! \*Retirement Planning for Teachers

Instructor: Bonnie Hepburn

How will Social Security and other pensions affect your Massachusetts Teachers' Retirement Pension? Does buying back time in the plan make sense? Is it smart to contribute to a TSA? How much? These questions and more, including a personal retirement plan based on your own projected income and expenses, will be addressed. Ms. Hepburn is a Certified Financial Planner.

Mon: 3:30-5:30 pm-1 day-5/6/96-Tuition: \$20.00

## CAREERS

### NEW! Assertive Presentation Skills

Instructor: David Favreau, M. Ed., L.C.S.W. [00.452-011] Summer I

Assertive Presentation Skills will help you to develop and deliver effective assertive presentations. Class time will address presentation preparation, assertive presentation styles, dealing with hostile audiences and your fears.

Weekly homework assignments. Note: This class can be used for CEU's/P.D. Points for educators.

Wed: 5:30-7:30 pm-5 wks-Begins 5/22/96-Tuition: \$35.00

### NEW! Energize Your Voice

Instructor: Arlene Slater-Stone

Using breath management, you will learn how to increase your body's use of oxygen, enhance stamina, eliminate hoarseness, improve voice projection, and improve your telephone image. Arlene is an accomplished opera singer with leading roles in major European opera houses.

Wed: 6:00-7:30 pm-6 wks-Begins 5/22/96-Tuition: \$55.00

### Color Your Rainbow

Instructor: Joan Kilday

A career/life workshop designed to identify new career/job opportunities using self-assessment techniques.

Participants will use Richard Bolles', *What Color is Your Parachute* or *How to Create Your Ideal Job* and the Harrington-O'Shea Career Decision Making System.

(Book is available at commercial bookstores.)

Sat: 9:00 am-Noon-4 wks-Begins 6/8/96-Tuition: \$45.00

[00.526-011]

Summer I

[00.527-011]

Summer I

[00.540-011]

Summer I

[00.541-011]

Summer I

[00.601-011]

Summer I

[00.633-011]

Summer I

[00.633-011]

Summer I

[00.471-011]

Summer I

[00.407-011]

Summer I

## SKILL ENHANCEMENT & REFRESHER

### \*Introduction to Keyboarding

Instructor: Claire Bickford

Build your speed and confidence. This course is for students who have little or no experience on typewriters or computers. Using IBM® compatible personal computers, students will learn the basic alpha and numeric keys.

Sat: 9:00-11:00 am-6 wks-Begins 5/25/96-Tuition: \$70.00

### NEW! \*Macintosh for Office Personnel

Instructor: Joanne Gagnon-Ketchen

This Macintosh computer course is geared towards office personnel (or those wishing to gain employment skills in this area). The course is techniques and tips for creating and formatting correspondence, memoranda and reports as well as effective ideas in document design in relation to tables, charts, graphics and borders. Prerequisite: Basic knowledge of Macintosh computer.

Thurs: 6:30-8:30 pm-6 wks-Begins 5/23/96-Tuition: \$45.00

### \*GRE Test Preparation

Instructor: Timothy Hall

A review of subject matter, test-taking strategies, and problem solving. Students will answer sample test questions and take a full-length practice test.

Tues: 6:30-8:30 pm-8 wks-Begins 5/21/96-Tuition: \$90.00

### \*GMAT Test Preparation

Instructor: Timothy Hall

A review of subject matter, test-taking strategies, and problem solving. Students will answer sample test questions and take a full-length practice test.

Wed: 6:30-8:30 pm-8 wks-Begins 5/22/96-Tuition: \$90.00

### \*LSAT Test Preparation

Instructor: George E. Guay III, J.D.

By augmenting students' test-taking skills, this course can improve an applicant's chances for entering law school. The four areas covered: reading comprehension, analytic reasoning, logical reasoning, and writing sample will be examined and specialized strategies developed for each topic. Test-taking skills will be honed by answering sample test questions and taking a full-length practice test. Class discussion will include a review of the steps involved in the law school application process. Two ARCO LSAT guides to be purchased separately.

Sat: 9:00 am-Noon-8 wks-Begins 5/26/9

# PROFESSIONAL INSTITUTES

## \*Starting Your Own Consulting Practice

[00.004-011]  
Summer I

Instructor: Mel Epstein

For those in any field interested in starting and succeeding in consulting. Covers the three key elements of success in consulting: organizing, financing, and marketing. Topics include: identifying potential clients, advertising, sales presentations, pricing your services, closing a sale, translating your expertise into advice, writing successful proposals, and estimating time required to complete a project.

Sat: 10:00 am-6:00 pm-1 day-6/1/96-Tuition: \$74.00

## \*Starting your Own Mail Order Business

[00.005-011]  
Summer I

Instructor: Mel Epstein

Learn the basics of succeeding in the mail order business by following the six key steps: developing your mail order concept, selecting merchandise, preparing an ad or catalog, renting mailing lists, and monitoring results. Includes a Harvard Business School case study, and a video of L.L. Bean's methods for managing a mail order business. Learn how to begin with a classified ad, how to estimate your response rate, and how to use a financial feasibility formula for a mail-order venture. (HBS)

Sun: 10:00 am-6:00 pm-1 day-6/2/96-Tuition: \$74.00

## \*Starting & Succeeding in the Catering and Restaurant Business

[00.008-011]  
Summer I

Instructor: Mel Epstein

Opportunities abound for the catering and restaurant entrepreneur with a well-prepared business plan (more than 40% of the food dollar is consumed outside the home). This seminar covers preparing a complete business plan for a successful catering and restaurant business. Defining Your Food Service Concept, Organizing, Financing and Marketing. We will show you how to advertise, plan menus, analyze costs to increase profits, determine the best location, raise money and motivate your staff. Includes extensive handouts illustrating successful catering and restaurant management practices. (HBS)

Sat: 2:00 pm-6:00 pm-1 day-5/25/96-Tuition: \$40.00



## M A N A G E M E N T I N S T I T U T E

### NEW! \*Internal Consulting Skills

[00.020-011]

Instructor: Mel Epstein

This seminar covers the complete process of being an effective internal consultant: developing a relationship; communicating concisely; determining what is to be achieved; establishing an implementation program; scheduling regular meetings; monitoring progress; achieving results; and concluding the current phase of work. You will learn how to analyze your interactions with your client, combine process and substance, be time effective, increase productivity, use the LEAPS process, and understand the potential and limits inherent in the internal consulting relationship.

Wed: 9:00 am-1:00 pm-1 day-6/5/96-Tuition: \$75.00

### \*Total Management Effectiveness Laboratory

[00.035-011]  
Summer I

Instructor: Mel Epstein

The key to success is knowing how to get results with the people and resources available to you. This seminar covers how to use the four key elements of effective management to get results: planning, organizing, leading, and monitoring. We will assist you in improving your practical management skills such as communicating effectively, delegating appropriately, and monitoring without meddling. Using a series of video and Harvard Business School case studies, we will illustrate the management techniques you can use to succeed. (HBS)

Mon: 10:00 am-6:00 pm-1 day-5/20/96-Tuition: \$135.00

### \*Finance & Accounting for Non-Financial Managers

[00.034-011]  
Summer I

Instructor: Mel Epstein

For managers in all fields who want to understand the essentials of finance and how to use finance successfully in their work. Covers the income statement, the cash flow statement and the balance sheet, the five types of financial ratios, budgeting and break-even analysis, the time value of money, making projections, raising venture capital, and preparing a business plan. Includes Harvard Business School Case Studies. (HBS)

Wed: 10:00 am-6:00 pm-1 day-5/29/96-Tuition: \$135.00

### \*Selling & Managing the Sales Relationship

[00.026-011]  
Summer I

Instructor: Mel Epstein

This seminar will show you how to use a proven client-centered method for increasing your sales. Includes how to make effective presentation on the telephone, to professional and industry associations, and at in-person meetings. Covers the 5 key steps in a sales presentation, how and when to close, and how to make every sales meeting a success (defined as learning how the potential client feels about your product and service). Includes a video on 24 ways to close a sale. You will have the opportunity to refine your techniques in a dialogue process with the seminar leader. We will cover the four key ways to attract new business and how to determine which way is the best for you and your company!

Fri: 9:00 am-5:00 pm-1 day-5/24/96-Tuition: \$99.00

## M U L T I M E D I A I N S T I T U T E

### For more information on the Multimedia Workshops, call Cathy Kendrick at (508) 934-2495.

#### \*Intro to Multimedia Basics

Instructor: Darryl Benjamin,  
President of Prototype Publishing, Inc.

What is multimedia? Who does it benefit? Discover the answers to these questions and more: learn what hardware and software you'll need to run multimedia animation, video and music, presentation packages, authoring tools, utilities, graphics, photographic images, games, education & training, and databases. Planning, creating, authoring and distributing multimedia presentations and CD-ROMs will also be covered.

Sat: 10:00 am-5:00 pm-1 day-May 18-Tuition: \$75.00

#### NEW! \*Multimedia Cross-Platform Issues

Instructor: Beatrice Lee, M.Ed.

For those interested in learning more about creating cross-platform multimedia documents for both Mac and Windows. Instructor will review important considerations involved in putting together a hybrid disc, file format compatibilities/incompatibilities, system palette concerns, testing your files and more.

Sat: 10:00 am-2:00 pm-1 day-August 3-Tuition: \$85.00

#### NEW! \*DeBabilizer for Multimedia

Instructor: Beatrice Lee, M.Ed.

A powerful tool for anyone who creates or uses computer graphics – graphic artists, designers, desktop publishers, multimedia producers, and software programmers. DeBabilizer has been referred to as the "Swiss army knife" of graphics conversion because it can cut through the chaos and confusion of having multiple file formats. DeBabilizer's powerful conversion function and a variety of time-saving automated graphic processing and manipulation features will be presented. Participants will acquaint themselves with DeBabilizer through hands-on practice in editing images, converting bit depths, remapping and optimizing palettes, and batch processing graphics files. (Macintosh platform) Sat: 10:00 am-4:00 pm-1 day-August 10-Tuition: \$95.00

#### NEW! \*Macromedia Director

Instructor: Beatrice Lee, M.Ed.

Learn to develop interactive multimedia projects using one of the world's most widely used multimedia authoring software packages: Macromedia's Director. Students will create interactive events, explore computer animation, and integrate these with text, video, and audio for use in impressive marketing presentations, interactive educational documents, or product demonstration pieces. Prerequisite: Basic familiarity with the Mac. This course will be offered in an intensive three-day format. Lunch is included. Mon-Wed: 9:00 am-5:00 pm-3 days-Meets July 29, 30, 31-Tuition: \$325.00

## New Technical Seminars for Business & Industry

## I N T E R N E T I N S T I T U T E

### NEW! \*The Internet: An Introduction [see #s below]

Summer I & II

Lecture, discussion, demo, hands-on. Platforms available: Mac/Windows. An overview of the tools, resources and on-line research and retrieval capabilities of the Internet. Participants will examine such widely used programs as electronic mail, telnet, FTP, list serves, Archie, Gopher, Fetch, Netscape, HTML and WWW. Through Lecture/demo and hands-on activities, participants will gain a working knowledge of the net and gain an insight into the research and business assets of the net. New technologies such as Java and Shockwave will also be presented. Mac and PC users will learn about the hardware, software and connection services they need to get online. Breakfast and lunch included. Breakfast will be served at 8:00 am.

Section A: Mon: 9:00 am-5:00 pm-1 day-May 13-

Course #: [00.946-011]-Tuition: \$125.00

Section B: Mon: 9:00 am-5:00 pm-1 day-June 10-

Course #: [00.946-012]-Tuition: \$125.00

Section C: Mon: 9:00 am-5:00 pm-1 day-Aug. 5-

Course #: [00.946-021]-Tuition: \$125.00

**UMass Lowell offers one of the largest and most comprehensive programs of study in multimedia applications**

- State-of-the-art Multimedia Labs
- Courses available on both Mac and PC platforms

**In addition to the noncredit Multimedia Institute courses, the University also offers a credit certificate program in Multimedia Computer Applications. For further information, see the Certificate Program section of this bulletin on page 20 or call 508-934-2942.**

### NEW! \*Creating Interactive Web Pages with Java and Javascript

[see #s below]  
Summer I & II

Lecture, discussion, extensive hands-on. Platforms: Mac/Windows. Java allows for the creation of Web Pages that users can interact with on World Wide Web. Java is a simple (compared to C and C++), object oriented language which works well with the TCP/IP and HTML protocols of the internet and, because compiled Java is architecture -neutral, Java applications are ideal for a diverse environment such as the internet. Breakfast & lunch included. Breakfast will be served at 8:00 am.

Section A: Tues-Thurs: 9:00 am-5:00 pm-3 days-May 14, 15, 16-Course #: [00.947-011]-Tuition: \$600.00

Section B: Tues-Thurs: 9:00 am-5:00 pm-3 days-June 11, 12, 13-Course #: [00.947-012]-Tuition: \$600.00

Section C: Tues-Thurs: 9:00 am-5:00 pm-3 days-Aug. 6, 7, 8-Course #: [00.947-021]-Tuition: \$600.00

### NEW! \*Creating Interactive Web Pages with Macromedia Director's Shockwave

[see #s below]  
Summer I & II

Lecture, discussion, extensive hands-on. Platforms: Mac/Windows. Macromedia Director developers can now create interactive web pages using a Director plug-in called Shockwave. Shockwave allows users to create interactive advertising, promotions, entertainment, and compelling user environments. Shockwave can transform Web pages into dynamic, interactive multimedia productions that load as quickly as static images. This introductory course will go over the basics of Director and show how applets can be made using Shockwave. Breakfast & lunch included. Breakfast will be served at 8:00 am.

Section A: Wed & Thurs: 9:00 am-5:00 pm-2 days-May 22, 23-Course #: [00.948-011]-Tuition: \$400.00

Section B: Wed & Thurs: 9:00 am-5:00 pm-2 days-June 19, 20-Course #: [00.948-012]-Tuition: \$400.00

Section C: Wed & Thurs: 9:00 am-5:00 pm-2 days-Aug. 14, 15-Course #: [00.948-021]-Tuition: \$400.00

### NEW! \*Commerce on the Web

[see #s below]  
Summer I & II

Lecture, discussion, hands-on. Platforms: Mac/Windows. This course will explore the current opportunities for information users and information providers to do business on the Internet. The course will look at Web "malls" and other commercial sites, PR and informational sites, advertising, transaction management and support services on the Web. Breakfast and lunch included. Breakfast will be served at 8:00 am.

Section A: Fri: 9:00 am-5:00 pm-1 day-May 24-

Course #: [00.949-011]-Tuition: \$125.00

Section B: Fri: 9:00 am-5:00 pm-1 day-June 21-

Course #: [00.949-012]-Tuition: \$125.00

Section C: Fri: 9:00 am-5:00 pm-1 day-Aug. 16-

Course #: [00.949-021]-Tuition: \$125.00

### NEW! \*Creating Documents (HTML), Graphic Design and Multimedia for the WWW

[see #s below]  
Summer I & II

Lecture, discussion, extensive hands-on. Platforms: Mac/Windows. Through Lecture/Demo and hands-on activities, participants will gain a working knowledge of the Web and learn how to use its communication language, HTML. Designing effective home pages using sound, video and pictures will be the focus of this course. Breakfast & lunch included. Breakfast will be served at 8:00 am.

Section A: Mon & Tues: 9:00 am-5:00 pm-2 days-May 20, 21-Course #: [00.950-011]-Tuition: \$400.00

Section B: Mon & Tues: 9:00 am-5:00 pm-2 days-June 17, 18-Course #: [00.950-012]-Tuition: \$400.00

Section C: Mon & Tues: 9:00 am-5:00 pm-2 days-Aug. 12, 13-Course #: [00.950-021]-Tuition: \$400.00

### NEW! \*Setting Up and Running WWW Servers

[see #s below]  
Summer I & II

Lecture, discussion, extensive hands on. Platforms: Mac/Windows. This course teaches basic skills needed by the system administrator to set up and manage a World Wide Web site. The introductory course also includes information about newsgroups, ftp, gopher, etc. The course includes information on server software for UNIX, Mac, and Windows environments, ftp, gopher, news, email, obtaining and compiling WWW server software and Security issues: fire walls, etc. Breakfast & lunch included. Breakfast will be served at 8:00 am.

Section A: Wed-Fri: 9:00 am-5:00 pm-3 days-May 29, 30, 31-Course #: [00.951-011]-Tuition: \$600.00

Section B: Wed-Fri: 9:00 am-5:00 pm-3 days-June 26, 27, 28-Course #: [00.951-012]-Tuition: \$600.00

Section C: Wed-Fri: 9:00 am-5:00 pm-3 days-Aug. 21, 22, 23-Course #: [00.951-021]-Tuition: \$600.00

# COMMUNITY EDUCATION / Professional Institutes

## **NEW! \*Public Policy Issues and the Internet**

Lecture, discussion, demonstration. Platforms: Mac/Windows. We will take a look at the converging trends in telecommunications and try to assess their political and economic impacts. As we move from 14.4 modems, to ethernet, to ISDN, to cable and the ways that these networks carry new types of traffic, the separateness of what was once the phone, the TV and the computer start to converge thus raising all sorts of interesting questions. Discussion/debate on: copyright, issues of individual privacy, system security, commercialization of the net, public access to the Net, who should determine the structure of the net, liability and free speech issues for the Internet, the roles of government and the market economy, intellectual property issues for the Internet and the legal status of an Internet site operator. Breakfast & lunch included. Breakfast will be served at 8:00 am. Section A: Tues: 9:00 am-5:00 pm-1 day-May 28-Course #: [00.952-011]-Tuition: \$125.00 Section B: Tues: 9:00 am-5:00 pm-1 day-June 25-Course #: [00.952-012]-Tuition: \$125.00 Section C: Tues: 9:00 am-5:00 pm-1 day-Aug. 20-Course #: [00.952-021]-Tuition: \$125.00

## **NEW! \*VRML: Virtual Reality Modeling Language and 3D on the World Wide Web**

Lecture, discussion, demonstration, hands-on. Platforms: Mac/Windows. VRML is a 3-dimensional interface to the World Wide Web. Using VRML, it is possible, even easy, to create realistic environments that look and act much like the real world. Includes survey of VRML browsers, building VRML applets, survey of the different tools available for VRML authors and site administrators. Breakfast & lunch included. Breakfast served at 8:00 am. Section A: Fri & Tues: 9:00 am-5:00 pm-2 days-May 24, 28-Course #: [00.953-011]-Tuition: \$400.00 Section B: Fri & Mon: 9:00 am-5:00 pm-2 days-June 21, 24-Course #: [00.953-012]-Tuition: \$400.00 Section C: Fri & Mon: 9:00 am-5:00 pm-2 days-Aug. 16, 19-Course #: [00.953-021]-Tuition: \$400.00

## **NEW! \*Using the Web as a Repository for Information on Education, Industry, Research and Government**

Lecture, discussion, extensive hands-on. Platforms: Mac/Windows. Get the skills you need to find and use information available on the Internet in ftp repositories and in gopher and Web sites. Participants will access libraries, government and research documents and business infocenters. Breakfast & lunch included. Breakfast will be served at 8:00 am. Section A: Fri: 9:00 am-5:00 pm-1 day-May 17-Course #: [00.954-011]-Tuition: \$125.00 Section B: Fri: 9:00 am-5:00 pm-1 day-June 14-Course #: [00.954-012]-Tuition: \$125.00 Section C: Fri: 9:00 am-5:00 pm-1 day-Aug. 9-Course #: [00.954-021]-Tuition: \$125.00

## **COMPUTER GRAPHICS & PREPRESS INSTITUTE**

### **\*Introduction to Macintosh Basics**

Instructor: Angela Harkins, Computer Training Consultant

Provides students with an introduction to the Macintosh. Using the keyboard and mouse, drop-down and pop-up menus, creating and naming new files/folders, saving documents, using the trash can, memory specifications and requirements, desk accessories, and some keyboard short-cuts. (A requirement for all Multimedia students who do not have basic familiarity with the Macintosh.) Section A: Sat, 10:00 am-5:00 pm-1 day-May 11-Course #: [00.902-011]-Tuition: \$70.00 Section B: Sat, 10:00 am-5:00 pm-1 day-August 10-Course #: [00.902-021]-Tuition: \$70.00

### **\*Introduction to PageMaker® 6.0**

Instructor: Gretchen Wichtermann, President, Wichtermann Graphics

This hands on workshop will provide a step-by-step introduction to Adobe® PageMaker, the most widely used page layout software application on the Mac. Initial topics include opening a new or pre-existing PageMaker publication or template, formating the page(s), placing and manipulating graphics and text blocks, defining text styles and attributes, setting up master pages, and using column guides. Note: Students should have basic, hands-on familiarity with the Macintosh. Limit: 20.

Sat: 9:00 am-12:00 noon-3 days-June 1, 8, 15-Tuition: \$185.00

### **\*Advanced PageMaker® 6.0**

Instructor: Darryl Benjamin

Picks up where Intro to PageMaker leaves off. With the basics now under your belt, the gap between knowing the mechanics of PageMaker and practical experience will be closed. Students will gain valuable hands-on experience using advanced features while producing newsletters, brochures, flyers, long documents, ads, and more. This course will also review the new features in PageMaker 6.0. Prerequisite: Intro to PageMaker or equivalent. Limit: 20.

Sat: 9:00 am-12:00 noon-3 days-July 13, 20, 27-Tuition: \$185.00

## **[see #s below] Summer I & II**

## **NEW! \*CorelDRAW for Windows**

Instructor: Darryl Benjamin

An introduction to one of the most popular drawing applications for the Windows platform. Learn to create and edit outlines and fills, modify and organize objects, work with clip art, use text and symbols as art, create special effects, and use different file formats and fonts. Mon & Wed: 7:00-9:00 pm-4 days-Aug. 19, 21, 26, 28-Tuition: \$95.00

## **\*Introduction to Adobe Photoshop**

Instructor: Judy Glidden

Gain a basic knowledge of Adobe Photoshop, one of the most versatile imaging software applications on the market. Students should have basic, hands-on familiarity with the Macintosh. Sat, 10:00 am-2:00 pm-2 days-Aug. 17 & 24-Tuition: \$150.00

## **New Technical Seminars for Business & Industry**

## **PC USER INSTITUTE**

Learn to use some of the most popular software application programs to help you become more productive in your job, or to assist you with your personal computing needs. All of our user-friendly noncredit courses are designed to provide practical computer applications training. Taught by experienced professionals, these courses are offered on IBM® PC compatible computer systems. Certificates are available upon recommendation of the instructor.

### **Since class size is limited, early registration is encouraged.**

For further information about the PC User Institute, please contact Cathy Kendrick at 934-2495.

### **\*Intro to Personal Computers**

#### **Using IBM PC Compatible**

Instructor: Computer Training Consultants

Designed for those who have purchased or are considering purchasing a personal computer, or those who anticipate having to work with one. Topics will include what a personal computer can do, the memory unit, keyboard and operating system. A variety of software programs for word processing, spreadsheets, and database management will be discussed. No experience necessary. Mon & Wed: 7:00-9:00 pm-4 days-Aug. 20, 22, 27, 29-Tuition: \$95.00

### **NEW! \*Introduction to Windows 95**

Instructor: Computer Training Consultants

Designed for the user who is new to Windows and wants to become familiar with Windows 95, this course will cover everything from using the mouse, opening and closing windows, starting multiple programs, switching between them, and quitting them, to customizing your screen and mouse settings, working with drives, folders and files, copying, deleting and recycling files, and printing files. Mon: 9:00 am-5:00 pm-1 day-June 10-Tuition: \$95.00

### **NEW! \*Installing & Networking**

#### **Windows 95**

Instructor: Computer Training Consultants

Designed for those interested in learning how to install and configure Windows 95 on networked machines, or for those who need to administer a network of Windows 95 machines in their jobs. Students will learn about Windows 95 system architecture, how to install Windows 95, how to install and configure networking components using Windows 95 built-in networking support, how to setup Windows 95 machines on a Novell NetWare or Microsoft network, complete administrative functions in Windows 95, and how to use the Dial-Up Networking client component of Windows 95. Mon & Tues: 9:00 am-5:00 pm-2 days-June 17 & 18-Tuition: \$385.00

### **NEW! \*Introduction to Word 6.0 for Windows**

Instructor: Computer Training Consultants

This introductory course will acquaint the new user with creating Word for Windows documents. Upon completion of the training, you will be able to create, edit, save, and print documents. In addition, you will also learn how to create envelopes, cut and paste text, add headers and footers, and use the spell checker and thesaurus. Prerequisite: Intro to Windows or equivalent.

Tues: 9:00 am-5:00 pm-1 day-June 11-Tuition: \$95.00

### **NEW! \*Introduction to Excel 5.0 for Windows**

Instructor: Computer Training Consultants

This course will acquaint you with Excel for Windows. Upon completion of the training, you will be able to create, save, and print worksheets. You will also learn how to enter simple formulas, cut and paste data, and much more. Topics will include: worksheet design, edit fill and auto fill, erasing a range, saving your file, adjusting column widths, aligning data, setting numeric formats, and relative/absolute cell addressing. Prerequisite: Intro to Windows or equivalent skills. Wed: 9:00 am-5:00 pm-1 day-June 12-Tuition: \$95.00

**We Can Teach PC Courses On-Site:**

**Call 934-4240**

## **[00.955-021] Summer II**

## **NEW! \*Introduction to PowerPoint for Windows**

Instructor: Computer Training Consultants

This course is designed to familiarize you with Microsoft PowerPoint for Windows. Upon completion of this training, you will be able to create, edit, save, and print or show a presentation. In addition, you will learn to use the drawing tools, work with symbols, and create graph charts. Prerequisite: Intro to Windows or equivalent skills. Thurs: 9:00 am-5:00 pm-1 day-June 13-Tuition: \$95.00

## **[00.962-011] Summer I**

## **NEW! \*FileMaker Pro for Windows**

Instructor: Computer Training Consultants

This course will introduce one of the most popular file keeping and database programs for growing businesses. With Claris® FileMaker Pro you will learn how to customize your databases, create special business graphics, do mail merges, and more! Great for those looking for a better way to maintain mailing lists, track sales, manage records, or keep track of inventories. Fri: 9:00 am-5:00 pm-1 day-June 14-Tuition: \$95.00

## **[00.960-011] Summer I**

## **NEW! \*Introduction to Access for Windows**

Instructor: Computer Training Consultants

This course is designed to familiarize you with Access for Windows. Upon completion of this training, you will be able to create, save, and print Access tables. In addition, you will be able to add records, query the database, delete records, and design a simple report. Prerequisite: Intro to Windows or equivalent. Wed: 9:00 am-5:00 pm-1 day-June 19-Tuition: \$95.00

## **[00.971-021] Summer II**

## **NEW! \*Microsoft Office 4.2: Application Integration**

Instructor: Computer Training Consultants

This three-day intensive workshop is designed to provide individuals with working knowledge of the software products bundled into Microsoft Office: Word, Excel, PowerPoint, and Access. Students will learn the word processing, spreadsheet, database management, and business presentation graphics capabilities that are contained within Microsoft Office and that are used widely in business to support the most efficient office environments. Mon-Wed: 9:00 am-5:00 pm-3 days-Aug. 5, 6, 7-Tuition: \$325.00

## **[00.964-021] Summer II**

## **NEW! \*Windows NT Overview - 1/2 Day Seminar**

Instructor: Computer Training Consultants

This half-day seminar will provide an overview of Windows NT, why it was developed, hardware requirements, design goals, system components, etc. Covers the Windows NT server, Novell Netware, Windows for workgroups, protocols, and remote access services. Mon: 9:00 am-12:00 noon-July 15-Tuition: \$150.00

## **[00.961-021] Summer II**

## **NEW! \*Introduction to Visual Basic 4.0**

Instructor: Computer Training Consultants

This course is designed to provide instruction in Visual Basic. During this course, you will learn how to program in the VB environment, create a working form, work with controls and properties, declare variables and constants, create menus, and work with dialog boxes. Prerequisite: Windows skills and some programming experience helpful. Class will be held at CDrive in Woburn, MA (directions will be sent upon registration).

Tues & Wed: 9:00 am-5:00 pm-2 days-July 16 & 17-Tuition: \$325.00

## **[00.965-021] Summer II**

## **NEW! \*Introduction to the C Language**

Instructor: Timothy Niesen

This course will provide an introduction to one of the most widely-used programming languages. Instructor will cover composing and compiling simple programs, structuring, data types, arrays, pointers, structures, functions, and more. Basic programming knowledge is recommended. Mon: 10:00 am-5:00 pm-1 day-July 22-Tuition: \$135.00

## **[00.966-021] Summer II**

## **NEW! \*Understanding C Pointers**

Instructor: Timothy Niesen

Designed for those with basic knowledge of C who would like to gain a better understanding of how C pointers work. Instructor will cover the benefits of using pointers effectively, their proper syntax, and how to define pointers to the different types of data. Mon & Wed: 7:00-9:00 pm-2 days-July 22 & 24-Tuition: \$95.00

## **[00.967-021] Summer II**

## **NEW! \*CC: Mail 2.0 for Windows**

Instructor: Computer Training Consultants

Learn to identify parts of the cc: Mail window and use Smart Icons to work faster and easier. Learn the basics of addressing, creating, and sending a message. Locate, retrieve, and read messages. Responding to messages and sharing messages will be covered, along with printing messages to keep a permanent record of them. Held at CDrive in Woburn, MA (directions will be sent upon registration). Mon: 9:00 am-12:00 noon-1/2 day-July 8-Tuition: \$65.00

## **[00.968-021] Summer II**

## **NEW! \*Intro to Lotus Notes**

Instructor: Computer Training Consultants

Lotus Notes can give your organization a much needed program on-line access to any information that the company wishes to share. Notes is highly customizable not only for the developer or network administrator, but for the end-user as well. Users can create private views, desktops and smarticons, and maintain their own copies of favorite databases. This one day seminar covers many of the more technical features of Notes that are essential to becoming a Notes power user. It is designed for users who want to learn more than how to open and close documents.

Tues: 9:00 am-5:00 pm-1 day-July 9-Tuition: \$185.00 Held at CDrive in Woburn, MA (directions will be sent upon registration).

# COMMUNITY EDUCATION / Professional Institutes



## HEALTH CARE INSTITUTE

For more information, call the Office of Special Programs at (508) 934-2405. To register, call the Office of Enrollment Services at (508) 934-2700.

### **NEW! \*Stress Management [00.516-011]**

Instructor: Paul Fierimonte

Stress affects every individual but is especially problematic for healthcare professionals whose jobs demand their full attention in order to maintain the required level of service. The workshop will review the different types of stress including eustress and distress in attempting to help attendees funnel their energies and turn distressful situations into creative ones.

Sat: 9:00 am-2:00 pm-5/25/96-Tuition: \$60.00

### **NEW! \*HIV/Aids Education [00.517-011]**

Instructor: Paul Fierimonte

This workshop will focus upon the local, regional, and national prevalence of the HIV virus; methods of transmission; methods of prevention; social and political consequences of HIV infection; universal precautions; sexual behavior and HIV risk; and risky behaviors. Issues that are not usually discussed in workshops or in school will be discussed. Discrete topics will be reviewed.

Tues: 6:00-10:00 pm-5/21/96-Tuition: \$40.00

### **NEW! \*Liability and Its Impact on Nursing [00.515-011]**

Instructor: Pauline Ledebauche

This workshop focuses on the impact of legal liability on the practicing nursing professional. There will be a discussion on what liability exists, sample case studies, and methods of limiting vulnerability by practicing professionals. This program will not only apply to nursing but other healthcare related fields where the liability is similar, if not greater.

Thurs: 6:00-9:00 pm-5/30/96-Tuition: \$40.00

### **NEW! \*Therapeutic Touch [00.518-011]**

Instructor: Catherine Rosa

The Krieger/Kunz method of therapeutic touch, developed 25 years ago, but just recently gaining acceptance by the healthcare industry (and demand by patients) induces relaxation responses for acute pain (i.e., fever, migraines, cancer-related symptoms). With this technique, the healee can influence their own healing process. This hands-on workshop will provide a brief history and a theoretical approach of the method as well as teaching the actual technique. Students are advised to wear comfortable clothing as they will be the providers and recipients of the technique. Enrollment is limited.

Sat: 9:00 am-4:00 pm-6/8/96-Tuition: \$60.00

### **NEW! \*Tobacco Control & Cessation [00.519-011]**

Instructor: Julie Arel

Recent reports demonstrate the growing use of tobacco products (cigarettes as well as chewing tobacco) by high school and even middle school students. While individuals who adopt smoking as adults may quit more easily, those who start as youngsters have significantly greater problems quitting their tobacco habit. This workshop will review the epidemiological and medical factors related to the control and cessation as well as the efforts by various government bodies (at federal, state, and local levels) to reduce smoking.

Wed: 7:00-9:00 pm-6/19/96-Tuition: \$30.00

## Novell Authorized Education

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Authorized training programs  
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(NEAP)<sup>®</sup> program, the Certificate in

Data/Telecommunications with

Novell<sup>®</sup> Track, and the Information Systems

A.S./B.S. Degrees.

Call the Office of Special Programs at

**(508) 934-2405** for details.



## EDUCATION INSTITUTE

**The Education Reform Act of 1993 requires that all educators in the state of Massachusetts be recertified by 1999. In an effort to help teachers meet new certification requirements, the University of Massachusetts Lowell College of Education and Continuing Education are offering a variety of non-credit workshops that can be applied towards teacher recertification.**

**Each of the Teacher Recertification Workshops meet for 12 contact hours and teachers earn 12 Professional Development Points (PDP's) toward their recertification, unless otherwise noted.**

**For further information on these workshops, call the Office of Special Programs at (508) 934-2405.**

### **\*Legal Policy in Education [00.440-011]**

Instructor: Attorney Patrick Schettini, Assistant Principal, Reading Memorial High School

A survey of issues pertaining to student's rights, teacher's rights, and legal issues surrounding the curriculum. Other topics which will be covered include: the issue of religion and the schools, child abuse and sexual harassment, and labor/employment issues.

Tues & Wed: July 16 and 18, 9:00 am-4:00 pm-Tuition: \$125.00

### **\*Contemporary World Literature [00.465-011] Summer I**

Instructor: Francesca Tillona

A comparative study of literary works in English from India, Africa, Australia, the Caribbean, and other areas with multicultural and multilingual traditions.

Mon & Wed: August 26 & 28-10:00 am-5:00 pm

### **\*Survival Skills for Substitute Teachers [00.444-011]**

Instructor: Bridgette Driscoll

Provides training and staff development for both certified and non-certified professional substitute teachers. This course will focus on the problems and concerns most frequently encountered by substitutes on a day-to-day basis. Specific topics include: defining the role of the substitute teacher, expectations, classroom management, creating resources, multicultural awareness, special education programs and Chapter 1.

Mon: 3:30-6:30 pm-4 sessions-August 5-Tuition: \$125.00

### **\*Know Your Macintosh: A to Z [00.435-011]**

Instructor: Steve Mazzola, UMass Lowell

An in-depth look at the Macintosh for beginners. Learn the essentials of getting the most out of your Mac.

Designed for teachers who are interested in using a Macintosh in the classroom. Limit: 15.

Mon: 5:30-8:30 pm-4 weeks-Begins June 3-Tuition: \$125.00

### **\*The Internet Sampler: Wandering the World Wide Web [00.436-011]**

Instructor: Mike Lucas, UMass Lowell

An exploration of the Internet and its various resources. Designed for teachers who want to travel the information superhighway and understand the World Wide Web.

Wed: 5:00-8:00 pm-4 weeks-Begins 7/10/96-Tuition: \$125.00

### **\*Introducing Environmental History into the Social Studies Curriculum [00.463-011]**

Instructor: Dean Bergeron, UMass Lowell

This workshop will focus on Environmental History and how it can become an integral part of the social studies curriculum. Participants will be introduced to how the environment can be used as the focus for interdisciplinary teaching and the enhancement of student learning through use of computer technologies and hands-on involvement/learning experiences.

Tues: 4:00-7:00 pm-4 weeks-Begins May 21-Tuition: \$125.00

### **\*Strategies for Involvement/Learning in Teaching the American Civil War [00.464-011]**

Instructor: Dean Bergeron, UMass Lowell

Recent Civil War and Reconstruction literature will be discussed. Participants will be introduced to the use of computer technologies in the teaching of Civil War history. In addition, involvement/learning strategies (i.e., trial simulations, role playing, and political reenactment) will be considered.

Tues: 4:00-7:00 pm-4 weeks-Begins July 9-Tuition: \$125.00

### **\*Reading the Poem [00.419-021]**

Instructor: Francesca Tillona, Ph.D.

Participants will explore the uses of poetry as a multi-faceted teaching device and develop techniques for reading poetry with comprehension and confidence. Focusing on selected poems, participants will develop flexible and innovative approaches designed to expand student awareness of figurative language and poetic techniques, strengthen command of standard English grammar, & develop critical-thinking skills essential for lifelong learning.

Mon & Wed: June 24 & 26-10:00 am - 5:00 pm-Tuition: \$125.00

## 1996 PLASTICS ENGINEERING SEMINARS AND WORKSHOPS

Offered throughout the year, UMass Lowell's Plastics Seminars and Workshops are highly respected throughout the plastics industry as a proven method of gaining both theoretical and practical information. In its fifteenth year and staffed by internationally respected experts, this program provides effective technical instruction applicable to plastic materials, processes, design and quality control. Numerous course offerings cover topics in such areas as Injection Molding, CAD/CAM, Blow Molding, Extrusion, Quality, Fundamentals, and more.

For a 1996 Plastics Seminars and Workshops brochure, please call the Office of Special Programs at **(508) 934-2405.**

### **NEW! \*Developing Participatory Workshops for Teachers [00.467-021]**

Instructor: Dr. Paul Cox

Through presentation, interview, large and small group discussion, modeling activities and evaluation, participants will identify a workshop topic from their areas of expertise and develop it into a workshop outline and presentation. Participants will prepare a workshop proposal, draft a workshop outline, develop and experiment with supporting lessons and activities, receive feedback and evaluation. Dr. Cox will present a process for developing successful participatory workshops for teachers based on a model developed by the staff of the Performing Arts Centers and Schools: Partners in Education program at the J.F. Kennedy Center in Washington, D.C. Tues, Wed, Thurs, Fri: July 9, 10, 11, 12-9:00 am-12:00 noon-Tuition: \$125.00

### **NEW! \*Creating Curriculum Guides based on The Arts Curriculum Framework [00.468-011]**

Instructor: Dr. Paul Cox

This workshop is designed for specialists in the Arts. The purpose of the workshop is to examine the Massachusetts Arts Curriculum Framework in light of developing new curriculum and curriculum guides. A comparison will be made between the Arts Framework and the National Standards. Participants will follow strands of the Framework through the curriculum development process from the Common Core of Learning to assessment. The future of Arts Curriculum will be discussed.

Mon: 4:00-7:00 pm-4 weeks-Begins June 3-Tuition: \$125.00

### **NEW! \*Using Primary Source Documents and Artifacts to Teach Language Arts and History [00.469-021]**

Instructor: Sheila Kirschbaum, Tsongas Industrial History Center

Offered in conjunction with the Tsongas Center. Teachers will explore a wide variety of primary source documents and artifacts culled from the Tsongas Industrial History Center and the Lowell National Historical Park. Teachers will be engaged in activities using such materials as mill girl letters, architects' plans, fire insurance maps, corporation hospital records, newspaper articles, editorial cartoons, plantation records, slave narratives, historical photographs, and cultural artifacts. Teachers will also learn how to locate primary source documents and artifacts from within their own communities, and share ideas for using these in the classroom. 12 Professional Development Points.

Sat: August 10 and August 17, 10:00 am-5:00 pm-Tuition: \$125.00

### **NEW! \*Teaching Science in the Middle School [00.467-021]**

Instructor: Dennis Hunt, Massachusetts Outstanding Biology Teacher for 1995

For students at the middle school level, science should be a "verb" and not a "noun"! Their age, maturity level, and learning profile demands hands-on fun types of science experiences. That is what this course will be all about. And because how a student learns science may be as important as the science material itself, emphasis will be placed on those teaching strategies like cooperative learning, portfolios, gaming techniques and simple labs that really work. Alternative assessment methods will be examined because this creative approach to teaching science does not conform to a "traditional" grading system. Sat: 10:00 am-5:00 pm-2 days-June 1 & 8-Tuition: \$125.00

### **NEW! \*Integrating Literature into the Physical Education Curriculum [00.470.021]**

Instructor: Renata McFarland-Bateman

This workshop will focus on how using children's literature as another vehicle to assist a student in developing creative movement skills, risk taking, cooperative learning, problem solving, comprehension of concrete and abstract thinking and processing new and old information in which cognitive, affective and psychomotor domains can be transferred to all realms of learning.

Mon-Thu: 9:00 am-12:00 noon-4 days-July 15, 16, 17, 18-Tuition: \$125.00

On-site training programs are available for individual school systems or groups of teachers. For further information, call Vera Ossen, Professional Development Coordinator, Center for Field Studies at (508) 934-4650.

# UMass Lowell Certificate Programs

## TRAINING FOR HIGH DEMAND CAREERS



### Accounting

**Required Courses:**

- 67.101 Accounting Principles I  
67.102 Accounting Principles II  
67.203 Intermediate Accounting I  
67.206 Cost Accounting  
69.231 Business Finance

**Electives (Choose 2):**

- 67.204 Intermediate Accounting II  
67.207 Auditing  
67.209 Federal Income Taxes  
67.280 Accounting for Not-for-Profit Institutions



### Computer Proficiency

All of the courses in this certificate program can be applied towards the A.S or B.S. degree in Information Systems.

**Required Courses:**

- 92.202 Microcomputers & Applications Software  
92.211 Intro. to Programming with C-I  
(or 92.267 C Programming)

**Electives (Choose 3):\***

- 90.230 Intro. to Multimedia  
92.212 Intro. to Programming with C-II  
92.219 BASIC Programming  
92.265 Pascal Programming  
92.268 C++ Programming  
92.311 Introduction to the Unix Operating System  
92.312 Unix Shell Programming  
92.321 Discrete Structures I  
92.360 Intro. to Data Structures/C  
92.363 SPSS-X (Intro. to Data Analysis)  
92.364 Problem Solving with C  
92.470 Data/Telecommunications

\*Or any 90 or 92 prefix computer mathematics course



### Data/Telecommunications

**Required Courses:**

- 92.267 C Programming  
92.311 Introduction to the UNIX Operating System  
92.470 Data/Telecommunications  
92.472 Local Area Networks  
92.473 Computer Network Architecture and Protocol  
92.475 Communication Network Management



### Environmental Technology

**Required Courses:**

- 15.340 Hazardous Waste Management  
15.378 Air Quality Management  
15.420 Solid Waste Management  
86.131 Environmental Chemistry I OR 84.121 Chemistry I  
86.132 Environmental Chemistry II OR 84.122 Chemistry II

**Electives (Choose 2):**

- 15.280 Industrial Waste Treatment  
15.356 Water Treatment  
15.358 Wastewater Treatment  
15.388 Pumps & Compressors  
17.130 Electrical Basics & Lab OSHA  
"Haz Wopper" (OSHA 1910.120)  
41.367 Environmental Law and Regulations



### Multimedia Applications

**Required Courses:**

- 90.230 Introduction to Multimedia  
90.231 Graphics for Multimedia  
90.232 Desktop Video Production  
90.233 Multimedia Authoring Software  
90.235 Designing & Developing Interactive Media

**Electives (Choose 2):**

- 90.235 Programming for Multimedia  
42.221 Writing for Interactive Media  
70.265 Art with the Computer  
90.236 Instructional Design for Multimedia  
90.237 Topics in Multimedia  
90.238 Designing Multimedia for the World Wide Web  
91.113 Exploring the Internet  
90.239 Multimedia Scripting Using Macromedia Director's Lingo

For information call (508) 934-2942.



### Paralegal Studies

**Required Courses:**

- 41.103 Introduction to Paralegal Studies  
41.387 Legal Research Methods  
41.390 Litigation  
44.301 Computer Applications for the Legal Profession

**Electives (Choose 3):**

- 41.363 Corporate and Property Law  
41.370 Real Estate Law  
41.376 Family Law  
41.391 Federal Taxation Law  
41.392 Wills, Trusts, & Estates  
44.287 Legal Writing for Paralegals  
44.435 Alternative Dispute Resolution  
44.497 Paralegal Practicum/Internship

For information call (508) 934-2495.



### Technical Writing

**Required Courses:**

- 42.401 Principles of Technical Writing  
42.402 Software Writing  
42.403 Advanced Software Writing  
92.202 Microcomputer and Applications Software

**Electives (Choose 2):**

- 00.916 Desktop Publishing and a Computer Elective  
OR 2 Computer Electives



### UNIX

**Required Courses:**

- 92.267 C Programming  
92.311 Introduction to the UNIX Operating System  
92.312 UNIX Shell Programming  
92.360 Introduction to Data Structures

**Electives (Choose 1):**

- 92.268 C++ Programming  
92.313 UNIX Internals Overview  
92.314 UNIX System Interface Programming  
92.316 UNIX System Administration  
92.317 Developing Portable Applications



### Wastewater Treatment

**Required Courses:**

- 15.261 Wastewater Treatment Plant Operations I  
15.263 Wastewater Treatment Lab I  
15.280 Industrial Waste Treatment  
15.361 Wastewater Treatment Plant Operations II  
15.363 Wastewater Treatment Lab II

**Electives (Choose 2):**

- 15.152 Water Biology  
15.388 Pumps and Compressors  
15.452 Operation and Maintenance of Wastewater Collection Systems  
15.492 Water/Wastewater Plant Management  
86.131 Environmental Chemistry I  
86.132 Environmental Chemistry II



### Water Treatment

**Required Courses:**

- 15.272 Water Supply and Treatment Operations I  
15.274 Water Works Operations Lab I  
15.355 Water Distribution Systems  
15.372 Water Supply and Treatment Operations II  
86.131 Environmental Chemistry I

**Electives (Choose 2):**

- 15.152 Water Biology  
15.374 Water Works Operations Lab II  
15.388 Pumps and Compressors  
15.492 Water/Wastewater Plant Management  
86.132 Environmental Chemistry II



### Certificate in Internet System Administration

**Required Courses:**  
Introduction to the UNIX Operating System  
Internet Systems Administration  
TCP/IP Programming  
Managing Internet Information Services**Electives (Choose 2):**  
HTML Development and CGI Programming  
Security Issues on the Internet  
Topics on the Internet:  
Internet Practicum/Internship

### Certificate in Windows Development Programming

**Required Courses:**  
Visual Basic  
Introduction to Windows Programming with Object-Oriented Programming Tools  
Windows Programming in C and C++, Part I  
Windows Programming in C and C++, Part II  
Windows Programming for the Design of Interactive Systems  
Human Factors in the Design of Interactive Systems  
Windows Practicum/Internship

### Certificate in International Trade

**Required Courses:**  
49.320 Comparative Economic Systems  
(telecourse: Inside the Global Economy)  
49.321 International Trade Partnerships  
49.323 Legal and Finance Principles of International Trade  
49.403 International Trade Theory**Electives (Choose 4):**

- 46.121 Intro to International Relations Language I/Language II  
91.113 Exploring the Internet  
62.201 Marketing Principles  
48.212 Cultures of the World  
27.314 Packaging for the Environment  
49.310 Economics of Less Developed Countries  
49.322 Japan in the Global Economy  
49.335 International Political Economy

**NEW!**

### Certificate in Computer Assisted Manufacturing

The Certificate Program in Computer Assisted Manufacturing is designed to provide engineers, technicians, managers and those working in a manufacturing environment with an introduction to the computer as used to enhance industrial competitiveness. Coursework required for the Certificate is progressive beginning with two dimensional CAD drafting, three dimensional design, solid modeling, finite element analysis, and the use of the computer as an aid to machining (CAM). Students will apply various popular software packages and work with personal computers, workstations, and stand-alone computer-controlled machine tools. Elective coursework is designed to supplement the required courses through an examination of basic and advanced concepts which support the use of computers in engineering and manufacturing. Note: This certificate is subject to Faculty Senate approval.

**Required Courses:**

- 23.200 CADr (Computer Aided Drafting)  
23.480 CADes (Computer Aided Design)  
23.481 Applied CAD Design  
23.419 Applied Computer Aided Manufacturing (CAM)

**Electives (Choose 3)**

- 23.101 Engineering Graphics I  
23.102 Engineering Graphics II  
23.301 Manufacturing Technology Laboratory  
23.305 Manufacturing Processes  
OR  
23.306 Electronic Manufacturing Technology  
23.430 Industrial Automation  
23.474 Design for Manufacture

### NEW! Certificate in Hazardous Waste Management

The Certificate Program in Hazardous Waste Management is designed to provide environmental technicians, engineers, managers and those working in the environmental field with an introduction to the issues of regulations and treatment technologies. Course work required for the Certificate is progressive beginning with basic environmental chemistry, state and federal environmental regulations, various types of groundwater contamination and suitable technologies to abate hazardous waste contamination. Elective coursework is designed to supplement the required courses and allows the students some area of more advanced concepts. Note: This certificate is subject to Faculty Senate approval.

**Required Courses:**

- 86.131 Environmental Chemistry I  
15.280 Industrial Waste Treatment  
15.340 Hazardous Waste Management  
15.396 Groundwater Resources  
41.367 Environmental Law & Regulations

**Electives (Choose 3)**

- 40-Hour OSHA "Hazwopper" Training  
86.132 Environmental Chemistry II  
15.388 Pumps & Compressors  
15.420 Solid Waste Management  
15.492 Water/Wastewater Plant Management

**Additional Certificate Programs:**

UMass Lowell also offers certificate programs in:

- Banking
- Electro-Optics
- Engineering Skills
- Plastics Engineering Technology
- Land Surveying
- Manufacturing Technology
- Nutrition
- Purchasing Management
- Packaging
- Quality Assurance
- Security Management
- Spanish

For more information and a detailed program packet, please call the Division of Continuing Education at (508) 934-2470.